Hanne Peeraer

# Orientation Manual

# Orientation Manual

Hanne Peeraer

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This is my research journal - or, as I like to call it, my orientation manual. It is what I refer to when I need some, well, orientation. Straying off the path can be helpful and sometimes even necessary, but the things I pick up in the wilderness also need to find their way back to the main path. The road that I am walking on, in this forest that is my artistic practice.

This book serves as a companion to my blog. Online, I keep an archive of countless disembodied ideas, images, impressions that feed my work in a different, yet not fully separate, way than the contents of this book. The points, artists, ideas and thoughts covered in here by no means form an exhaustive list of all that inspires me. Nor do they delve into great depth (this especially applies to the second and third chapter), but they serve as signposts; gates to further exploration and discovery. For this book, I extrapolated a select few entries from the blog that appear most frequently and regularly in my working process.

Hanne Peeraer

*Most of the artworks displayed are* ***not*** *my own, and they will always come with a caption.*

*Images that don't have a caption or explanation, are my own work.*

*Generally, where* text appears in this font, *it consists of a quote or citation taken from elsewhere, and will include the source.* This font indicates *the text is writing of my own.*

Jacques Derrida
The cat gazing at a
nude male. A nude
male is being confron-
ted by a [female]
animal. Is he being
judged? He is being
observed. He is not
aware of his own

# Artists

# Expanded drawing

Markus Vater, *Time Machine*, acrylic on canvas, 200cm x 300cm, 2010

# Markus Vater

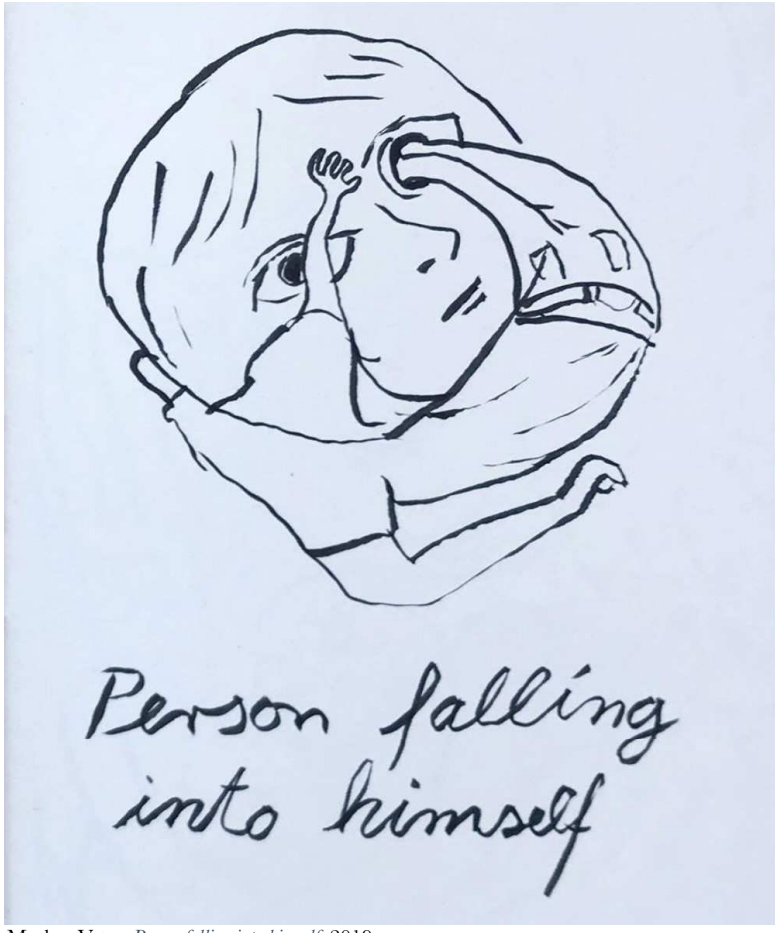
www.markusvater.com

"DRAWINGS ARE RIPS THAT TEAR THROUGH OUR WORLD"

"LOOK AROUND YOU! ALMOST EVERYTHING IN THE ROOM BEGAN AS A DRAWING"

text below taken from @markus_vater on Instagram

As painter it has always interested me where colours come from and what their origin means for the effect they carry. It's hard to grasp it and I had to think about the colour of Coca Cola and what it means to me..Before there were man made colours the only colours one could see in the world were flower-colours, sky-colours, sea-colours, blood-colours, plant-colours, Stone-colours, hair-colours, eye-colours, skin-colours, cloud-colours, wood-colours, River-colours, lake-colours, soil-colours, flesh-colours, fruit-colours, insect-colours,poo-colours, fire-colours, scale-colours, smoke-colours, and feather-colours. Anyone who knows more please let me know ! .....:)




Markus Vater, *Person falling into himself*, 2019

May 2018:

Markus Vater gives an artist's talk at Wimbledon College of Arts, within the lecture series of "Painting as Technology".
www.paintingresearch.net/markus-vater-visit

PAINTING
TECHNOLOGY (Markus Vater)

~~what things are~~ where they come from → the things that drive it

Peter Sloterdijk: humans staying in the larvae-state
↳ related to how we digest Painting, AI, technology
↳ attempt to create an incubator to preserve this larvae state
↳ makes us do less & less, be more & more comfortable

In that sense, painting is not a technology

painting = activity: creating a us as human beings.

The "Origin Myth" → abt of the magic Kangaroo.

humans starting to stand up; the hands develop alongside the brain. ←

Language: to understand &

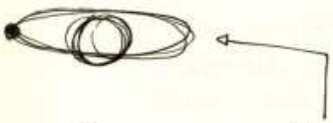
"growing on brain", painting
↳ every 40000~ years the brain "jumps" to a bigger size. These jumps coincide

"His head was so ~~big~~ large that everything was inside it. Himself included."

consciousness. It digs the brain &

the moon & the sun collaboratively to stretch the earth from horizon to horizon. Then wizard turns into Kangaroo, sees horizon and starts to sculpt humans (bad replica's of himself).

to grasp.



= the ellipse around the sun becoming more elliptical.

## Images / feeling

"everything started with an entity
Not just visual images; touch,

AN IMAGE IS A MAP TO REALITY } guideline.

A PAINTING IS NOT AN IMAGE } it is more

THE IMAGE IS WHAT IS FORMED IN OUR MINDS WHILE SEEING THE PAINTING.

PAINTINGS POSE AS IMAGES. THEY ARE RELATED TO THEM.

ing able to store images."
sounds, etc. "An image can
be anything."

thing in the world, an object.

"what you see is not
what you look at."

Large printer: activist. Quickly
accessing different atmospheres.
↳ anima: on back of
painting changes the way
you look at it when seen.
"shift your own judgement"
stop judging trusting

(1) conceptual images // smoke

celebrating
3.8 billionth year
of death

- dream of-
wrist but under
- ... exam-

without fire. Things that are
there be they are not there:
shadow, or death
= light around life around it

jects, like a watch not on your
the skin at your wrist.
ples of shows (ideas)

(2) inner images // low ppl

"Inside George Bush" 2002
"Inside Matisse"

look on the inside.

(3) images in other universes

- negative pa

for an elk.

for us empathi-
zing w/ the elk

- images for

// limits of painting.

ating (screen other room)
→ makes look like stars
↳ also protect from sun
animals.

4 animals ...

Empathy core notion of

The wild west is the far social aspect of work.

"It's a dry world. To look at things w/ a 'how it could be' attitude makes them more interesting."

I imagine how I imagine

"Self portrait as air".
"People are diff. ppl w/ diff.

being an artist. of course.

far East.

To think yourself into smth.
Thinking abt the possibilities.

process.
discussion.

I imagine you.

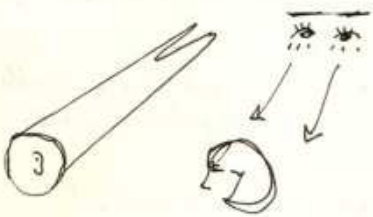
ppl."

Mobiles.

human nature

anything that moves is alive. You have to move with it.

glance made physical solid



→ good at putting us in a different time.

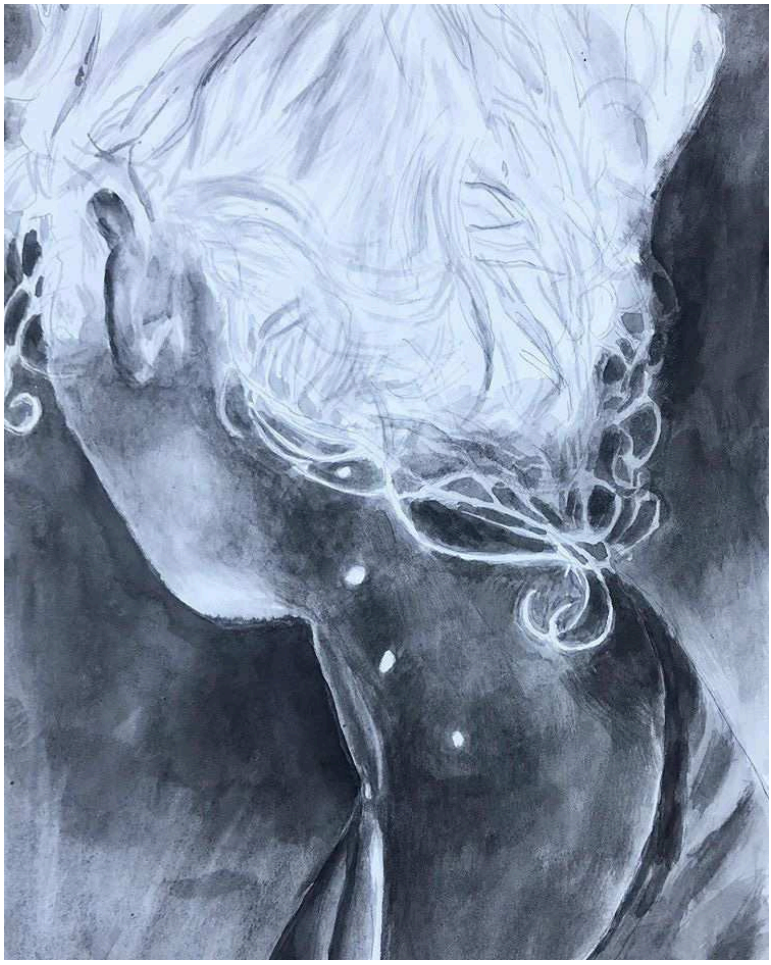
children have very strong conceptions of solidity
"why don't glances intermingle?"

human nature ← how we survived.

Der Mann veränderte seine Wesenform! Er wird eine Verspätung.

The trail.

Painting's work because you can see someone did something & you can follow them like a trail.



above: Markus Vater, *Girl with four moles*, ink on paper, 2020
left: Markus Vater, *Star Shine*, ink on paper, 2020
text below taken from @markus_vater on Instagram

"..... I have always been fascinated by the relationship of the skin and the sky. The connection isn't just a metaphorical one. When moles turn into the stars of a nightsky. Something intimate close to touch connected to something unreachable....the undertones of desire and unanswered love finding an image in this story. But the relationship between moles and the stars is also a biological one. Our skin reacts directly to the radiation of our nearest star: The sun. Moles change their colour and at times their cellular structure through the influence of the sun. A one sided connection that goes deep and is existential."

@markus__vater | *Paar* .....A Small painting . While painting it the figures kept loosing their shape, dissolving ,loosing contrast, while the sunshine on the water almost turned into some kind of material.... it was hard to keep light being light and bodies being bodies.....now it's somewhere in between... oil on board 90cm x 40cm.....

@markus_vater | Lightdrawing of a Northern Hemisphäre star sky. Installation with Pierced paper , overhead projector at Galerie Peter Zimmermann....

above: @markus_vater | Lying in the snow , exhausted from sledging all afternoon, cold, wet and warm at the same time. Snow biting at my fingertips. Everything muffled. Snow like elephant skin, burning on the wrists at the end of my sleeves. Snowflakes landing on my eyes, melting. It's very quiet. Very. And cold ..... „*Snowangel*" detail of an older painting.

opposite: Markus Vater, *She was a waterfall*, acrylic on canvas, 70cm x 40cm, 2018

Markus Vater, *Moonlight*, acrylic on canvas, 90cm x 120cm

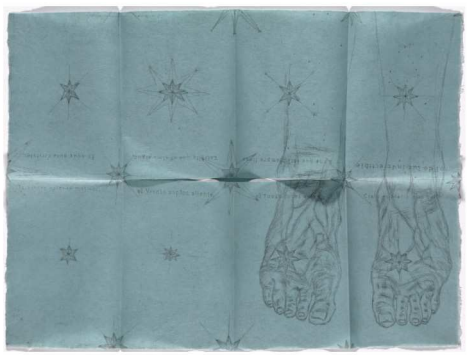
# Kiki Smith

Below excerpt taken from an article in ArtUS.

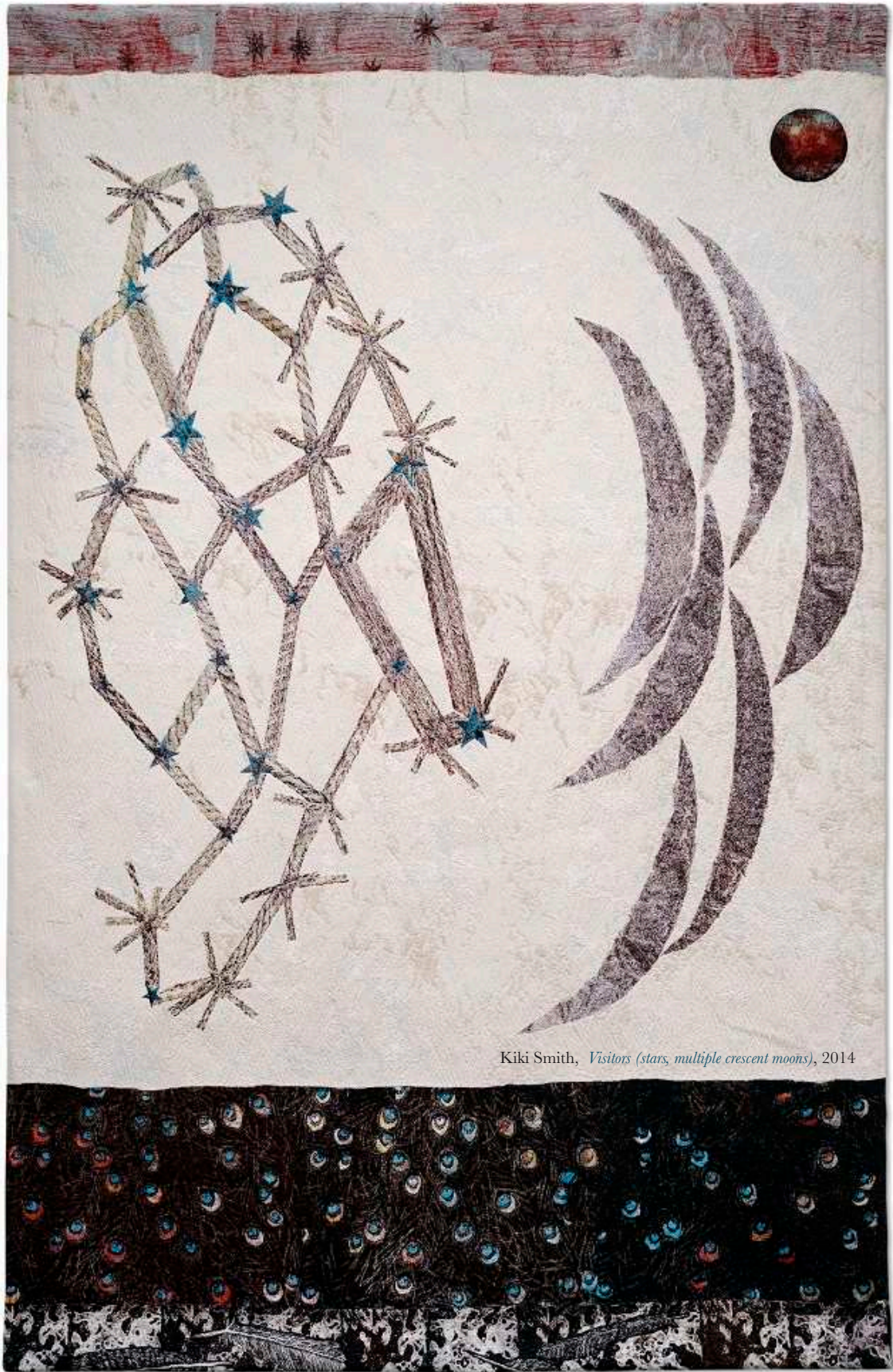
Kley, E. (2004) 'Kiki Smith', ArtUS, (2), pp. 44–45.

[...]
In contrast to her gruesome sculpture, Smith uses multiples to tease out pretty secrets from a labyrinth of metaphors, playing a game of hide-and-seek with mortality's gentler manifestations. Preserved specimens, anatomical illustrations, and the outlines of her own body are the starting points for sentimental portraits of life's most vulnerable relic. Echoing Tchelitchew's romantic surrealism, differences between human and animal, figure and landscape are blurred. Feathers rhyme with the trees they will become when decomposed, and fur becomes the grass its owners feed on. There is even a series of moons dressed in a skirt of oceans.
[...]
Renditions of human subjects are also largely passive. In Sueño (1992), Smith turned herself into the specimen, curling up directly on a large etching plate for an outline that she filled with muscles, resulting in a flayed self-portrait made up of a network of lines resembling hair or grass, ready to decompose and be transformed into vegetation. More recently, fairytales have inspired a moving series of works involving interactions between female and animal. Drawn in a naive and wooden style borrowed from nineteenth-century children's book illustrations, Smith's young women seem as helpless as h4 beasts. Their hands and feet are tiny, and their faces are blank. The composition of Pool of Tears 2 (after Lewis Carroll) (2000) was appropriated from the original drawing for Alice in Wonderland. Paddling along in a sea of her own tears, a bewildered shrunken Alice holds up her useless hands like a begging dog, followed by an entourage of otters and birds. And Born (2002), an ambitious large lithograph depicting Little Red Riding Hood and her grandmother rising from the belly of the wolf that has previously devoured them, resembles an embracing pair of red-cloaked mannequins standing on a wolf-skinned rug.
[...]

Hanne Peeraer, *after Kiki Smith*, 2019



Kiki Smith, *The Blue Feet*, 2003

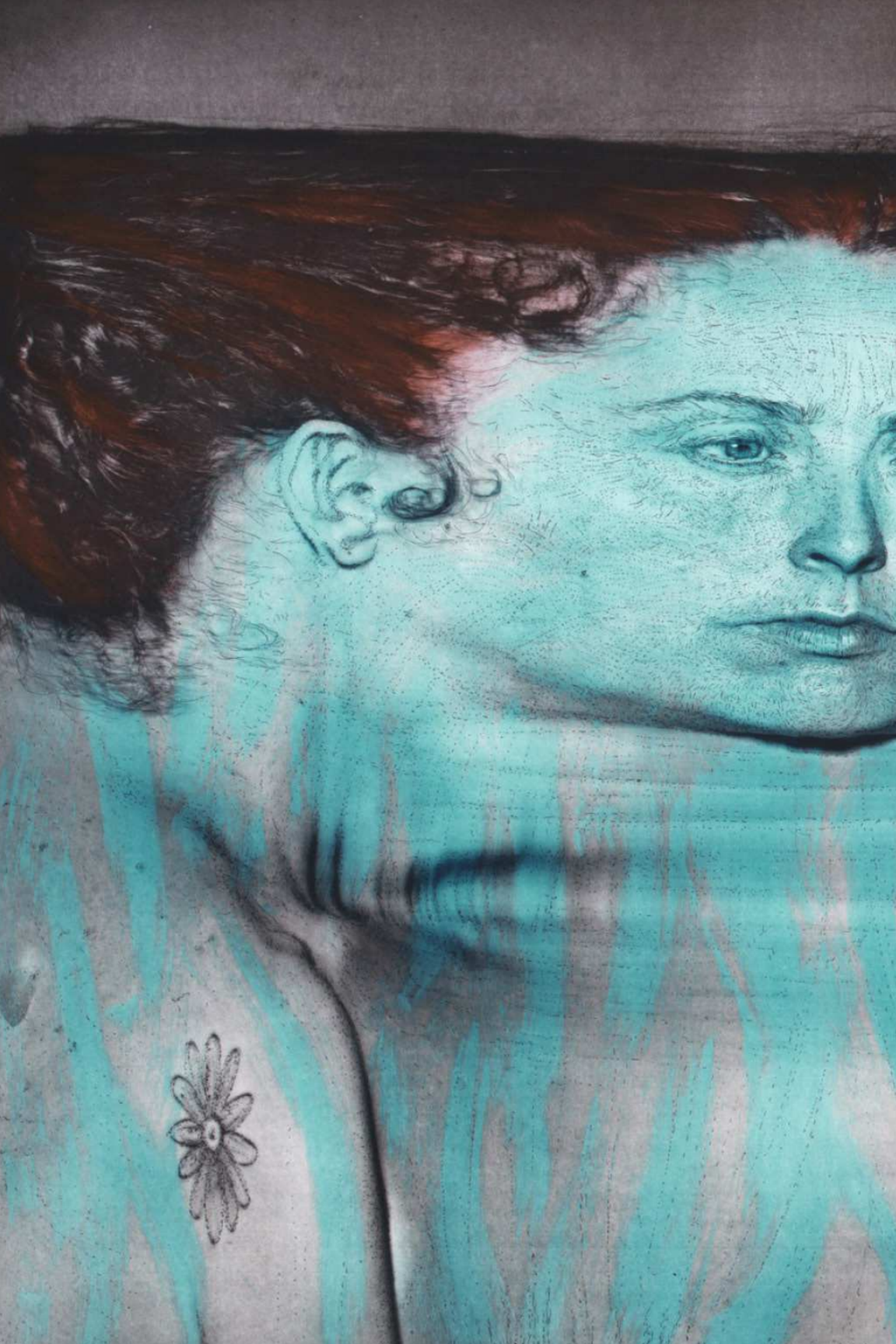


Kiki Smith, *Visitors (stars, multiple crescent moons)*, 2014

Kiki Smith, *Constellation*, 2013

Kiki Smith, *Free Fall*, 1994

overleaf: Kiki Smith, *My Blue Lake*, 1995
below: Kiki Smith, *Six Girls*, 2004. Collage, ink on Nepal paper.



# Bridget Riley

The following excerpts are from:
Bridget Riley, The Curve Paintings
(2015), London: Ridinghouse / Cornerstone Publications. ISBN 978 909932 12 8

[BR Bridget Riley in conversation with PM Paul Moorhouse]

p49
BR That's right – and go with the movement within the paintings. And then, also let your eye glide across them in a contrary movement in the opposite direction. You can go on finding visual events in the paintings; while I use repetition in many ways – mainly to support the rhythm – it is not something viewers should trouble themselves looking for.

PM Absolutely. Well, with a piece of music, you're not counting the number of beats in a bar. You experience them directly and feel their effect.

~[Note: But then why do I find myself so curiously trying to figure out the 'rhythm' and repetitions that she used to create the painting? Isn't it natural for us to want to try and understand?]~

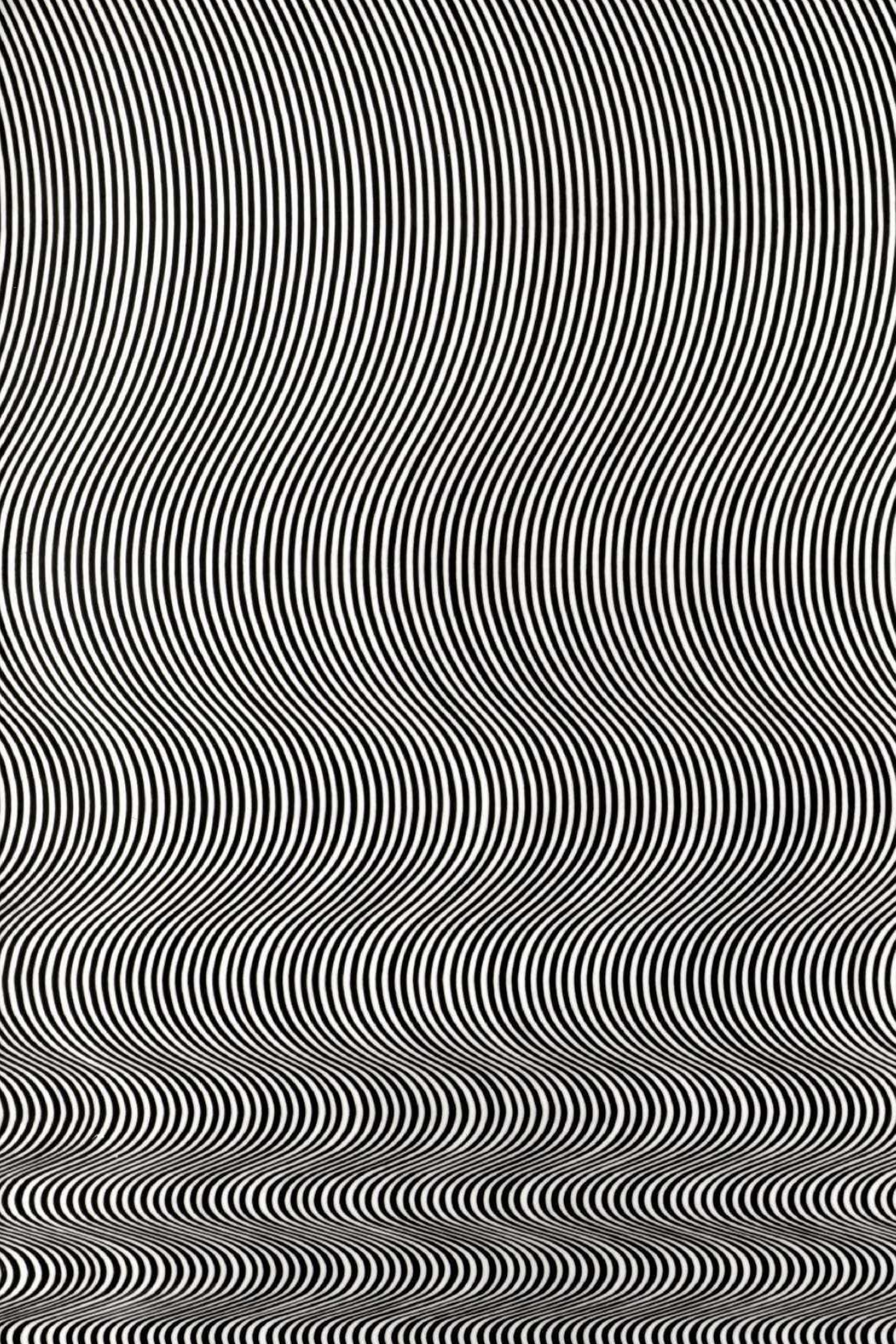
p51
PM What was it from Cézanne that you gained? His involvement with areas of sensation?

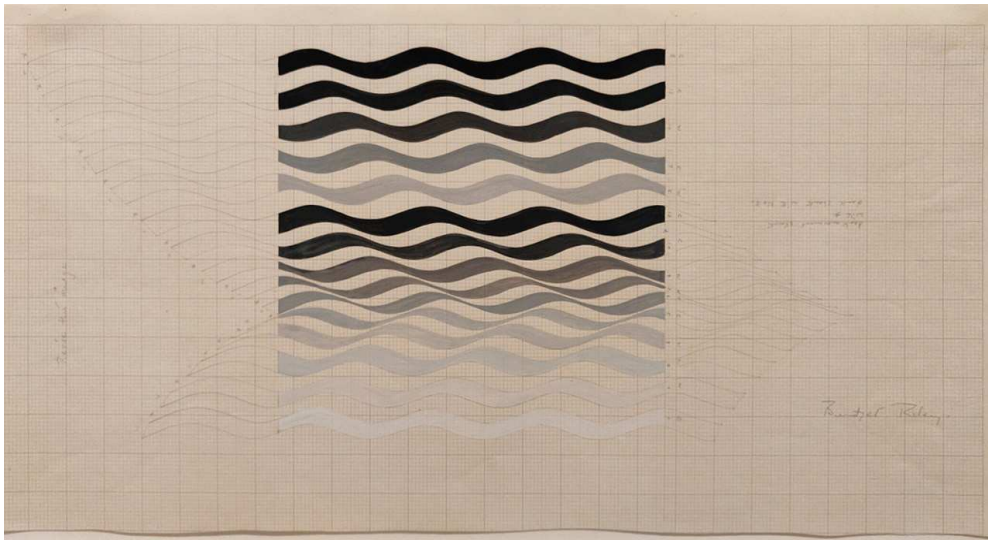
BR Yes, from reading about him particularly the advice that he gave. He referred to "ma petite sensation" – knowing what a fragile and fleeting thing that is. It was so fugitive, but that is precisely why it was such a real guide for him.

Notes:

in B&W diagonals I see rainbows
paint on the wall
drawings are more beautiful than finished paintings
"not bodies but senses of disembodied movement" p 51

opposite: Bridget Riley, *Current* (detail), emulsion on board, 1964

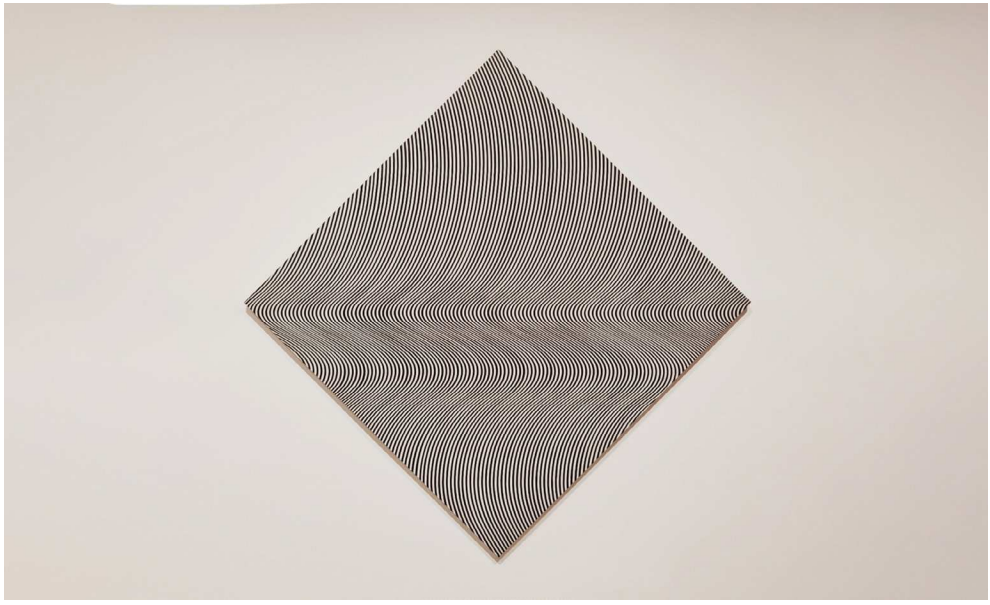




Bridget Riley, *Untitled (study for 'Arrest')*, 1965

Bridget Riley, *Current*, emulsion on board, 1964

Bridget Riley, study on paper, 1965



Bridget Riley, *Crest*, emulsion on board, 1964

Katsushika Hokusai, *The Famous Places on the Tokaido in One View (Tokaido meisho ichiran)*, 1818

# Katsushika Hokusai

Baatsch, H., 2016. Hokusai. London: Thames & Hudson. p. 24.

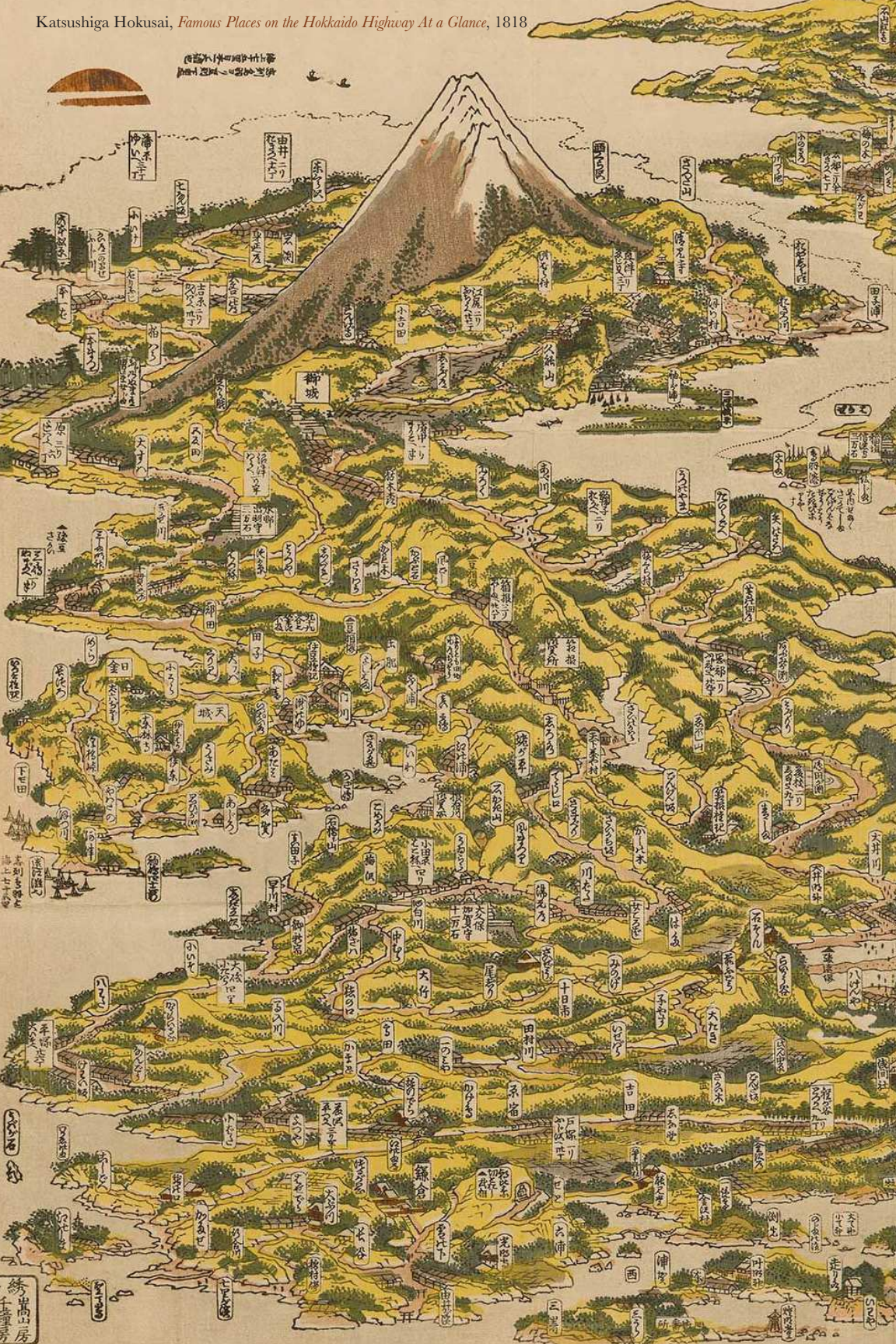
"Underlying the diversity of Hokusai's work is a passion for detail that is typical of Japanese art, with its papers, its colours, its inks, its brushes, its subjects, its nuances, and its extraordinarily varied homages to rituals and ceremonies, holy figures and sacred places. Polytheism and religious syncretism demand a great many tributes and consequently great attention to detail in every gesture and action, every passing day, since the unity of the world depends on a multitude of marks of respect and devotion, delivered in multiple directions. But if Japanese art is an art of detail, it is also the art of detail transformed into technical skill. Just as Hokusai amused himself by painting a gigantic portrait of Daruma on a huge piece of paper, using a barrel for an inkwheel and a broom for a brush, he is also said to have enjoyed painting on single grains of rice. These proofs of "skill" are a far cry from Western art's attempts to recreate an objective sense of fear and awe, the painstaking feats of a tormented age, such as Michelangelo painting his fresco of the Last Judgment in the Sistine Chapel.

Western art has never quite abandoned this approach, even when great religious and historical scenes were supplanted in the 18th century by a love of depicting bourgeouis interiors and imitating nature by striving to give painting animals the illusion of life. The technical prowess of Japanese artists, even when working at an outsize scale, was never anything other than playful. But what was the nature of the world in which they were playing? What hold were they to escape from?"

Katsushika Hokusai. *Kirifuri Waterfall at Kurokami Mountain in Shimotsuke (Shimotsuke Kurokamiyama Kirifuri no taki)*, ca. 1832

Katsushika Hokusai. *The Amida Falls in the Far Reaches of the Kisokaidō Road (Kisoji no oku Amida-ga-taki)*, ca. 1827

Katsushiga Hokusai, *Famous Places on the Hokkaido Highway At a Glance*, 1818



京都
江戸

# Vera Portatadino

Vera Portatadino has guided and supported my practice through the years, initially being the one to urge me into continuing my practice and applying for an undergraduate degree. I owe her a lot, and have always been inspired by her work.

Vera Portatadino is a visual artist born in Varese, Italy, in 1984. After graduating at NABA, Milan, she achieved an MA in Fine Art at the Chelsea College of Art and Design of London in 2009.

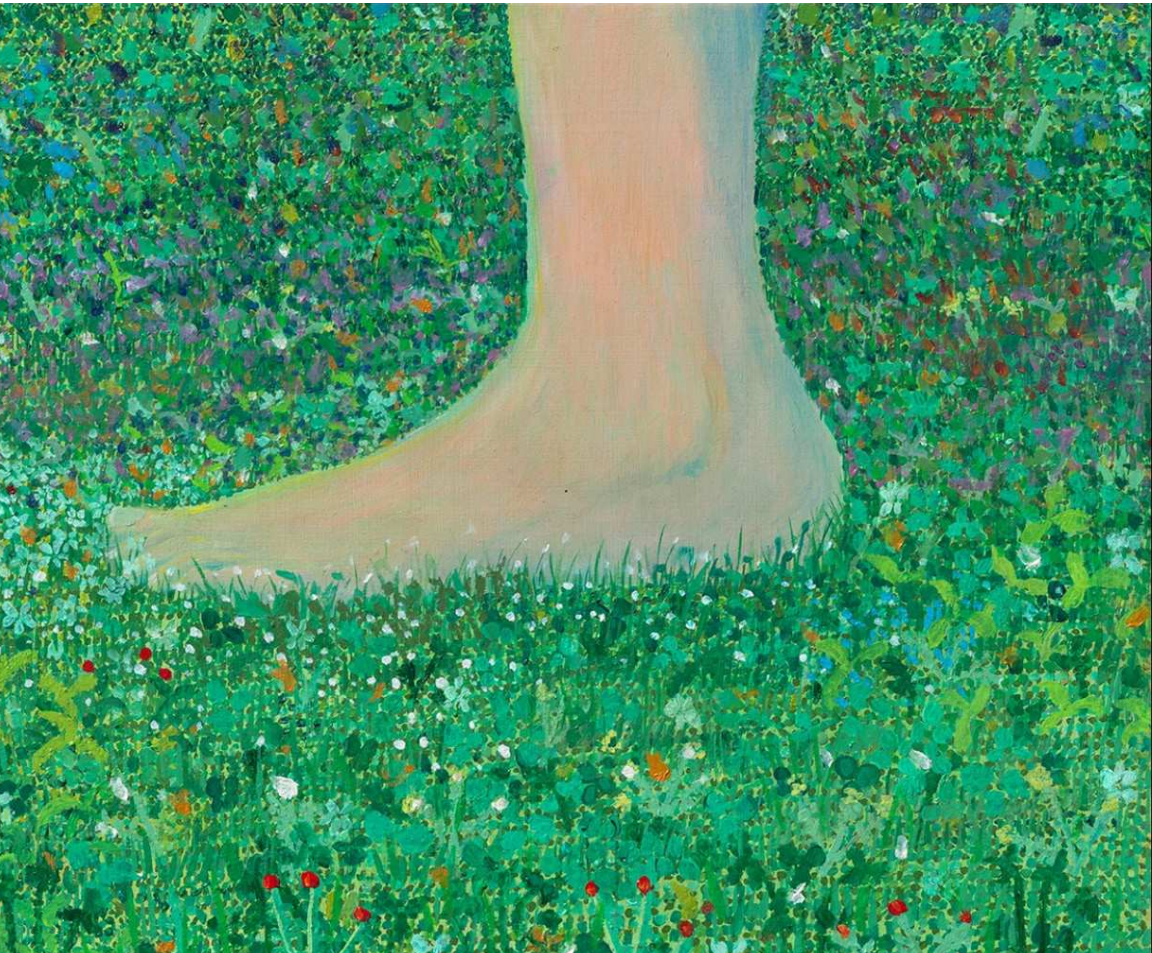
Her work explores the tangibility of painting in a Era heading towards virtual realities. Her themes address ecology, space colonization, and scientific manipulation by depicting earthly botanical details and relics in undefined landscapes.

In 2014, she founded Yellow, an research project focused on contemporary painting.

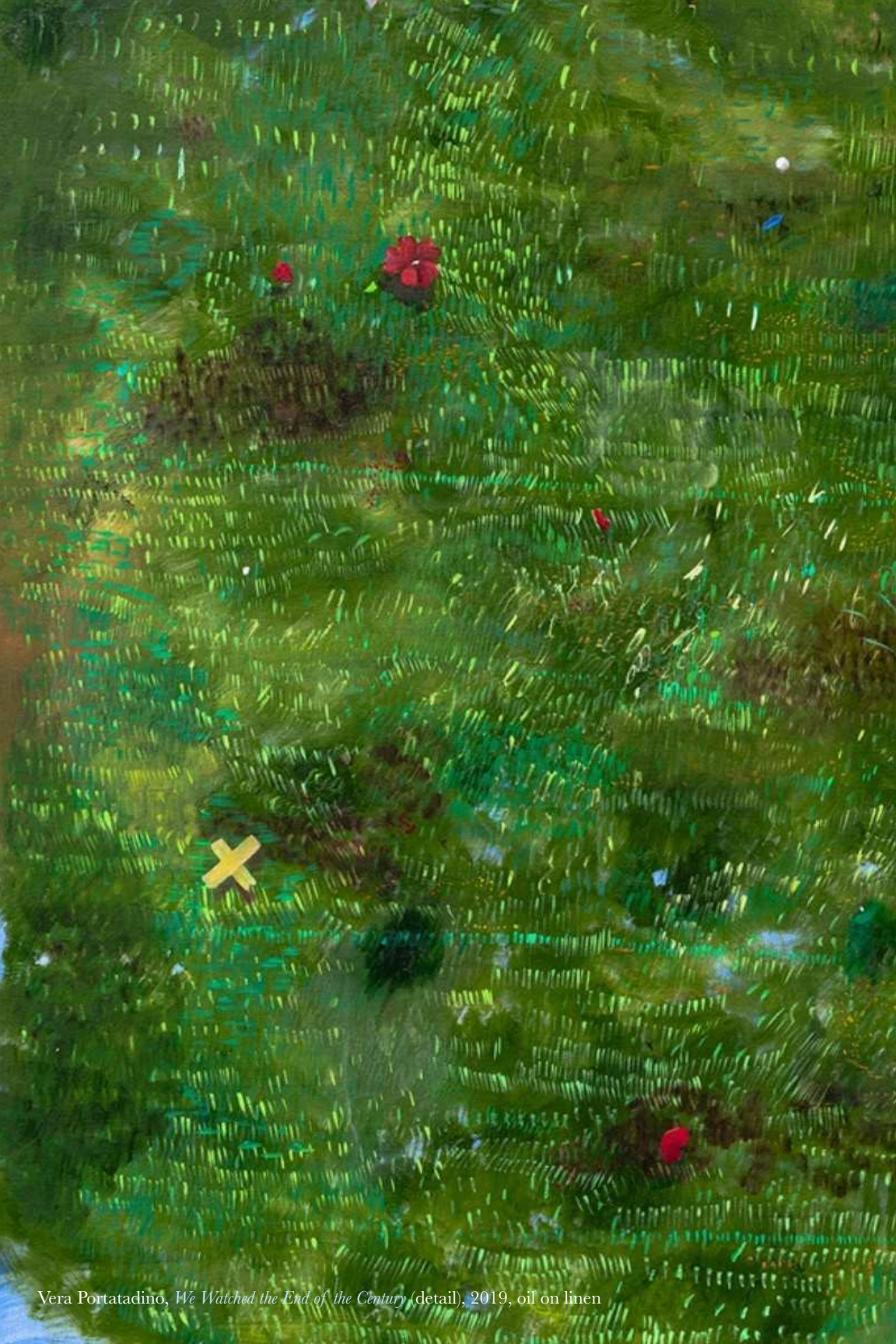
She lives and works in Milan.

www.veraportatadino.com

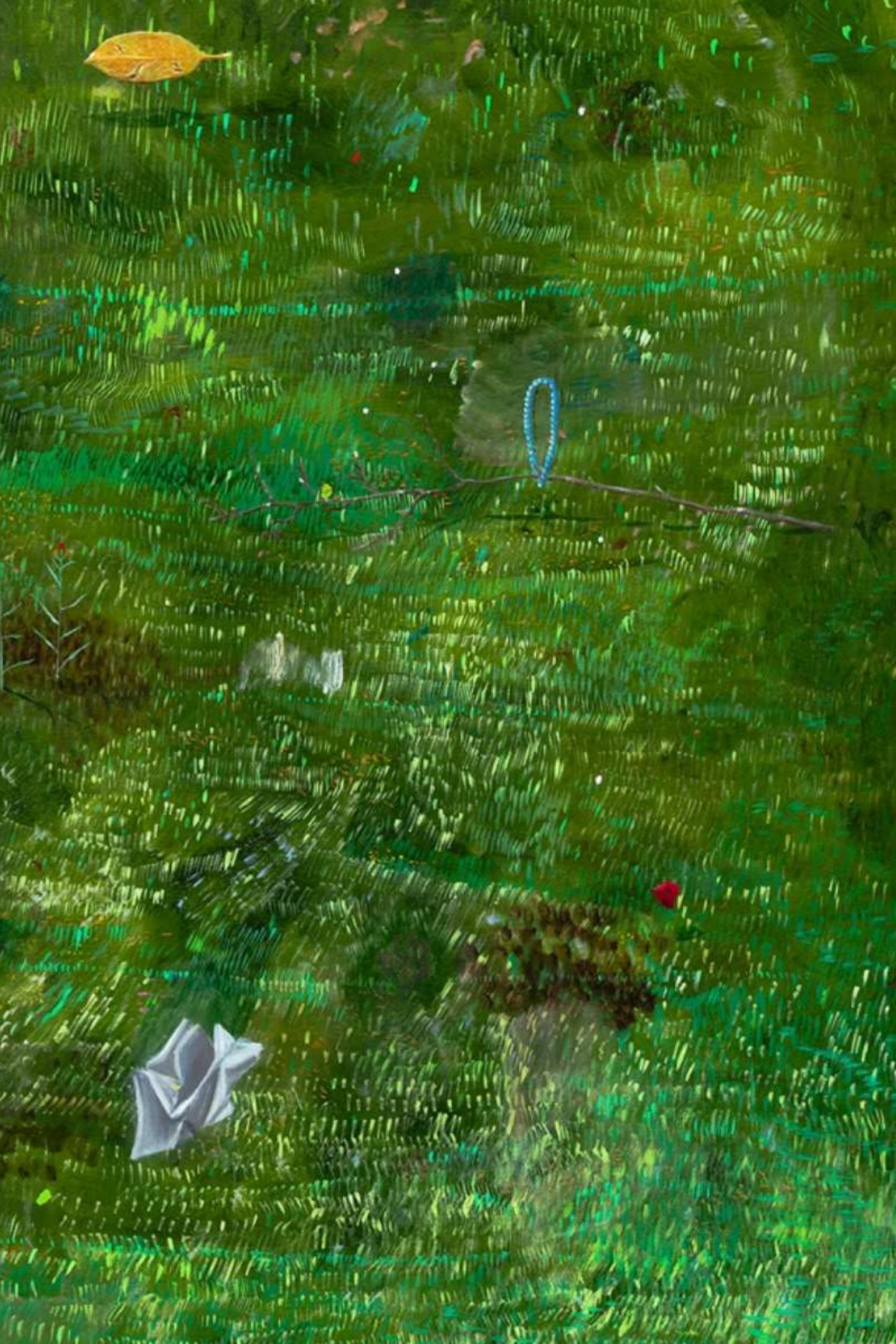
Vera Portatadino, *Anima Alzati Apriti*, 2019, oil on panel



Vera Portatadino, *Noli Me Tangere*, 2018, oil on linen



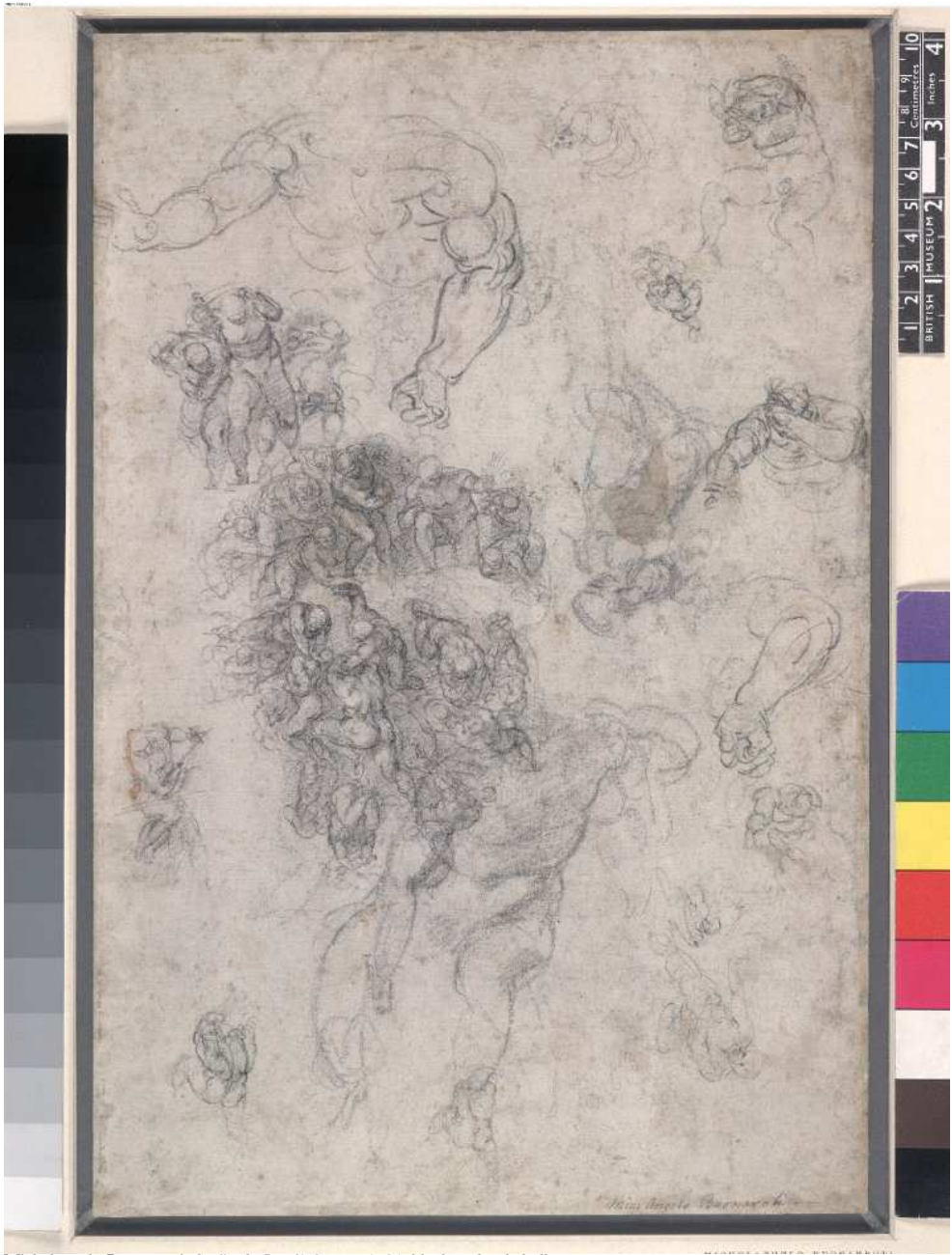
Vera Portatadino, *We Watched the End of the Century* (detail), 2019, oil on linen



# Michelangelo & others

*Teaching workshops at the Prints & Drawings Room of the British Museum*

"teach a simple matter properly, instead of struggling to teach a complicated subject straight off the bat - one step at a time." -Sarah Jaffray.




Michelangelo Buonarotti, *Studies for Last Judgement*, 1534, black and red chalk on paper

## Teaching workshops:
## 1: Time in 2D

### *Proposal*

Title: **Time Happening in 2D: drawings from Michelangelo to Flaxman.**

Selection of works:
1. Raphael, head of a boy. 1860,0616.94
2. Sir Austen Henry Layard, pencil drawing on whitish paper. 2007,6024.81
3. Théophile Alexandre Steinlen, Nursing Time (La Têtée). 1925,0615.2
4. Watteau, studies of a woman. 1857,0228.213
5. John Flaxman, Fall of the Rebel Angels. 1888,0503.90
6. Michelangelo, Studies for the Last Judgement, 1895,0915.518
7. William Blake, Two Figures Confront Eachother, 1874,1212.107
8. John Flaxman, A Sheet of Preliminary Sketches, 1888,0503.4
9. Claude Lorraine Ferneley, Studies of Ladies and Gentlemen on Horseback. 1935,0103.15
10. Bronzino, Unidentified subject with women, children and two elderly men. 1974,0406.36
11. George Cruikshank, Winged Figure of Time. 1972,U.554

100 Word Summary:
This workshop is an introduction to the ways in which Time manifests itself in a drawing. The participants will leave the workshop having discovered a new way to look at works of art; not just what the works look like, but also which traces of the past can be seen when inspected close-up.
There are three groups of drawings; “Layering” (4 works), “Movement” (3 works) and “Concept” (3 works), and one separate work. The final image will act as the round-off of the session; it contains elements of each of the groups and is also a drawing of Time itself.

### *Lesson Plan*

10-10:30 Introduction + presentation
This workshop will look at the way in which artists from the Italian Renaissance all the way up to the 1900s have used time as medium (as a tool).
How can “time” be used as a medium? At the end of this workshop you will the answer to that question.

At this point I would hand out three or four of my tracing paper sketchbooks for the participants to flick through.

Have a look at these sketchbooks. These are all my works, and time is a very important aspect of my practice. Does anyone have any idea how time plays a role in these sketchbooks? […]

1. The image changes slightly every time the page is turned over
2. The past drawings can be seen through the surface of the current drawing
3. The futures drawings can be seen through the surface of the cur rent drawing
4. The books are built up over a long period of time

Now that we've had a short conversation about a few ways in which time can manifest itself, let's move on to the artworks from the British Museum collection. I've grouped them according to three major themes, all within the subject of Time.

Let's start with a drawing exercise, to familiarise ourselves with the works. The reason why I am asking you to draw from the collection is because an often-underestimated way to understand a work of art is by drawing from it – you could say it is like "thinking with your hands" instead of your head. Don't worry about making the drawing look exactly like the original. Rather, try to focus on the way the lines are put on the paper – or the "mark making" if you will – which movements do you think the artist's hand originally made when drawing the image. You are going to draw on tracing paper because afterwards we are going to use them for an experiment. If you have any questions throughout the exercise let me know.

10:30 – 11:15 Drawing exercise + discussion

At this point the works would be uncovered, except the last one.

The participants will get three or four pieces of tracing paper (A5 size) to make drawings on. They can either draw the same image several times of make a combination of multiple ones. There will be coloured pencils, thick and thin normal pencils, and fine liner pens (if allowed?).

Goal: the participants will notice different techniques used by the artists, familiarise themselves with the works, and maybe even instinctively start to position the drawings on top of each other to see the combinations.

Discussion; how was the exercise?
Did any of the works stand out?
Do you see the different combinations of image you can make by layering them on top of each other in different ways?

11:00 – 11:30 Lecture on each of the groups + referring back to the drawings

*10 minutes: Group 1. "Layering": Watteau, Flaxman, Michelangelo, Blake*

- Two minutes historical background of the works.
- Explain that these are all works in which time can be seen by different elements being drawn apart from each other but overlapping, the different parts of the drawings are distinguishable and were clearly drawn at separate points in time.
- Referring to drawing exercise; we can see the first and last step all from the front of the drawing.

*10 minutes: Group 2. "Movement": Flaxman, Ferneley, Bronzino*

- Drawing multiple points in time into the same picture; fragmented motion as you might have seen before in cartoon drawings. Interesting in the Bronzino; at first the image looks static but tiny parts of it are changed afterwards – explain concept of "pentimento", etymology etc.
- Referring to drawing exercise; the people who made the same image multiple times can layer their sheets and the slight changes in each version will look like pentimenti when layered on top of each other. If nobody decided to repeat the same drawing, the drawings of the same image made by two different participants can be layered on top of each other for demonstration.

*10 minutes: Group 3. "Concept": Raphael, Layard, Steinlen*

- Less obvious ways in which time can be seen in drawings.

o Example 1; Raphael drew himself as a child, annotated the drawing years later, and used the same sheets for a different work at another point in time.

o Example 2; Layard drew a historical piece of stone that was dug up at some point in time, and the stone itself contains a drawing made even earlier – and this drawing is now displayed here in the Museum and drawn again by one of you.

o Example 3; Cats look serene, feeding time is a very slow and calm experience – almost as though time could stand still – and yet the drawing is made with vigorous and fast pencil marks.

11:30 – 11:45 Drawing exercise

Participants will be given the opportunity to draw works or combinations of works they might not have thought of drawing before the discussion, or to collaborate and see how their interpretations of the same works differ, and how they look when layered on top of each other.

11:45 – 12 Conclusion

Last work is uncovered: George Cruikshank's drawing of Time. Short historical background of drawing, then explanation of how Time shows up here;

- Drawing of the concept of Time (personification of time)
- Mark making suggests movement in the body of Time
- Different parts are clearly drawn at different points in time; layering of ink on top of pencil

Any other questions, feedback, comments, discussion…

Participants will leave with a small work made by themselves and having acquired a new way of looking at art; standing still and deconstructing the image by noticing traces of the past and different modes of visual construction.

Antoine Watteasu, *Studies of a woman standing, seen from behind [...]*, ca. 1684-1721, red and black chalk on paper

**Layering**: Watteau, Flaxman, Michelangelo, Blake

- Explain that these are all works in which time can be seen by different elements being drawn apart from each other but **overlapping**, the different parts of the drawings are distinguishable and were clearly drawn at separate points in time.
- *Referring to drawing exercise*; we can see the first and last step all from the front of the drawing.

Antoine Watteau, 1684-1721 (circa)
**Studies of a woman standing, seen from behind, a half-length woman with head in profile to left and women's hands; in various positions at l, including two hands clasped together**

Red and black chalks
School/style: French

Acquisition date 1857

John Flaxman 1755-1826
**Fall of the Rebel Angels; group of angels falling headlong, two studies and with other faint sketches**

Pen and grey ink over graphite
School/style: British

This sheet may perhaps represent studies for *Miltonic* scenes; though Flaxman did not extensively publish illustrations to John Milton's works three drawings in the BM attest to his having used Milton's poetry as source-matter

William Blake 1820-1825 (?)
**Two figures confront each other over a body; including a semi-nude woman at left with up-standing hair holding a dagger in her left hand. Graphite A naked man rising in the air; seen from behind and from below.**

Graphite
School/style: British

Michelangelo 1534
**Studies for the Last Judgement: groups of falling figures and studies for individuals; the two first-drawn figures in a softer black chalk.**
**Verso: Studies for the Last Judgement: two heads and falling figures**

Black and red chalk
School/style: Roman Florentine

The recto is a **palimpsest** (1. a manuscript or piece of writing material on which later writing has been superimposed on effaced earlier writing. 2. something reused or altered but still bearing visible traces of its earlier form.) being composed of **several layers of sketches**, all **studies for the fresco** of the 'Last Judgement' **commissioned** from Michelangelo **by Pope Clement VII** to decorate the altar wall of the **Sistine chapel** in the Vatican, Rome.
The main study consists of **three inter-connected groups corresponding to the compositional diagonal within the fresco which follows Christ's downward gaze, likened to a bolt of lightning**.
It displays Michelangelo's **organic conception** of the 'Last Judgement' fresco, unarticulated by fictive architecture: the three groups form a **pendulous whole**, a **homogeneous mass** of interconnected bodies.

**"Movement":** Flaxman, Ferneley, Bronzino

- Drawing multiple points in time into the same picture; fragmented motion as you might have seen before in cartoon drawings. Interesting in the Bronzino; at first the image looks static but tiny parts of it are changed afterwards – explain concept of "pentimento", etymology etc.
- *Referring to drawing exercise*; the people who made the same image multiple times can layer their sheets and the slight changes in each version will look like pentimenti when layered on top of each other. If nobody decided to repeat the same drawing, the drawings of the same image made by two different participants can be layered on top of each other for demonstration.

Angelo Bronzino ascribed to Jacopo da Pontormo 1518-1572
**Unidentified subject with women, children and two elderly men (study for the 'Benediction of the Seed of Noah')**
Black chalk
School/style: Florentine

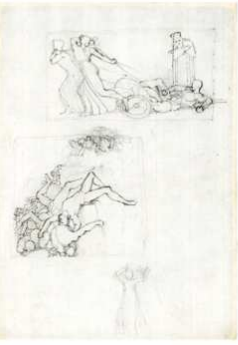
Suggestsed that it is a study for the **lost fresco** of the **'Deluge with the benediction of the Seed of Noah'** on the left-hand wall in the choir of the church of **San Lorenzo, Florence**. The work was **commissioned** by **Duke Cosimo de' Medici** in 1546, and Pontormo worked on it in the last decade of his life. The **upper tier was completed** in about 1550, but the **lower tier**, for which the present drawing is connected, was left **unfinished** on **Pontormo's death in January 1557**. **Bronzino completed all the unfinished frescoes in the lower tier.**

The **subject is unclear**. It has been suggested that, **since no men of fighting age are represented**, it might be an **episode from Exodus.** Another proposal is that the drawing may in some way be connected with the series of frescoes of scenes from **the Old Testament.**

The group, made up of figures seemingly **interlocked** with each other, gives the impression of having been **conceived for execution in marble relief rather** than any other medium.
The **anatomical exaggerations** are particularly reminiscent of Pontormo, for example in the elongated body of the woman kneeling on the left with her back slightly turned towards the spectator.

Claude Lorraine Ferneley 1822-1892
**Studies of ladies and gentlemen on horseback; whole-length and half-length**
Pen and brown ink
School/style: British

Acquisition date 1935
Letters received in 1934 from Backus to A. M. Hind, the Keeper of the Department of Print & Drawings at that time, record that Backus acquired this group of drawings by Ferneley from a friend of the artist, who gave them to him directly.



John Flaxman 1793 (circa)
A sheet **of preliminary sketches for Flaxman's illustrations titled "The Tragedies of Æschylus"**, two subjects from the Persae; at top, the Dream of Atossa, Xerxes fallen from the chariot with Darius bending over him in pity, below, the Persians slain by the Greeks, who hurl rocks and darts from above and at bottom a faint graphite sketch of Cassandra prophesying.
**Verso: inscribed: "Aeschylus / Persae, Pl 29,30"** *The Persians is an ancient Greek tragedy written during the Classical period of Ancient Greece by the Greek tragedian Aeschylus*

Pen and grey ink, over graphite on Italian(?) watermarked paper
School/style: British

The **pentimenti** in the drawing for 'The Dream of Atossa' shows Flaxman experimenting with **different figural positionings before going over his drawing with pen and ink**.

**'Concept'** Raphael, Layard, Steinlen

- Less obvious ways in which time can be seen in drawings.
  - Example 1; Raphael drew himself as a child, annotated the drawing years later, and used the same sheets for a different work at another point in time.
  - Example 2; Layard drew a historical piece of stone that was dug up at some point in time, and the stone itself contains a drawing made even earlier – and this drawing is now displayed here in the Museum and drawn again by one of you.
  - Example 3; Cats look serene, feeding time is a very slow and calm experience – almost as though time could stand still – and yet the drawing is made with vigorous and fast pencil marks.

William Blake 1793
Description A figure diving; seen from behind. c.1793
Graphite on paper
School/style: British
Acquisition date: 1874

Raphael 9?01500
Recto: Head of a boy, slightly to left, looking to right [**self-portrait**?], study of an ear
Black chalk
Verso: **A standing male nude**, seen from behind, and studies of arms
Pen and brown ink, black chalk
School/style: Umbrian Roman
Inscribed: **"Ritratto di se medesimo quando giovane"**

**According to the inscription** on the recto, the head on this sheet **is a self-portrait**. The inscription is in a **later hand** and **may be erroneous**, yet the age of the sitter, the directness of his gaze and the resemblance to other autograph self-portraits could indicate that this head is indeed Raphael himself.
It is **speculated** that the artist was **sixteen or seventeen** at the time that this sheet was drawn, then it would have been made around **1500** after Raphael left Perugino's workshop but before he went to Florence
The quality of the nude on the verso demonstrates Raphael's brilliance, even at this relatively early stage.

Théophile Alexandre Steinlen 1920
**"La têtée" (Nursing Time);** cat curled up and looking down at the two kittens against her, seen from behind.
Black chalk
School/style: French

Ritratto di se medesimo quando giovane.

opposite: Raphael, *Head of a Boy [...]*, date unknown.

## Teaching workshops:

### 2: Drawings as Entities

*(workshop in development at time of writing)*

This workshop aims to bring the public a new way of considering drawings. Instead of introducing the works as being from a certain artist, with a certain purpose and historical context, each drawing will be seen as an independent thing-in-itself. The works will be split into 3 groups; studies as autonomous narratives, illustrations free from the story and or context that they accompany, and self-portraits simply as depictions of people. The drawing exercises will focus on drawing from the works while aiming to consider the reproduction as yet another thing-in-itself; using techniques such as drawing without looking at the paper, not lifting the pen from the paper and purposely using different mark-makings.

10-10:30 Introduction + presentation
10:30 – 11:15 Drawing exercise + discussion
11:00 – 11:30 Lecture on each of the groups + referring back to the drawings
11:30 – 11:45 Drawing exercise
11:45 – 12 Conclusion.

# Occupying space

# Bill Viola

Excerpt from my dissertation below - for full text please see addendum at the end of this book.

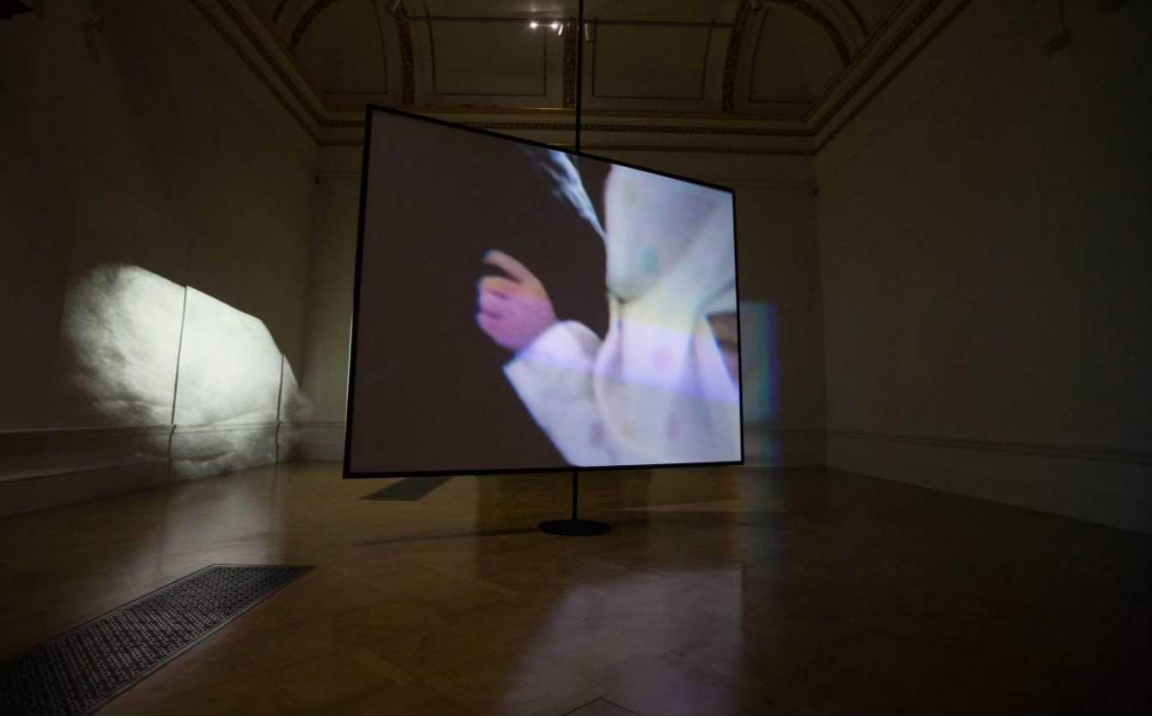
For instance, let's consider Viola's piece *The Reflecting Pool* (1977-79), which incorporates transcendence in its shape, its subject matter, and its purpose. In a darkened room, a projection screen is set up in such a way that it appears to be floating. A pool of water is seen softly rippling in front of a vibrant green and dense forest. After a few seconds, a man (Viola) approaches, jumps onto the edge of the pool, and swings his body softly back and forth. He then propels himself to dive into the pool, but his jump is frozen mid-air as he floats above the water, his reflection on its surface nowhere to be seen. Just like the figure, the forest in the background is completely still – only the ripples in the water introduce movement to the scene, catching our eye. Time now passes solely in the water; concentric circles rise and subdue underneath the floating man, and we are taken on a visual journey of surface tension. Meanwhile, the figure very slowly, almost imperceptibly, starts to morph into a source of blurred light and eventually is absorbed fully by the forest. We then see the man approaching the water once again – but only in the reflection of the water, nowhere else, bending over to pick something up, and then leaving the scene once again. After a while, two figures enter the scene: walking around and then facing each other, before fading into greenery.
Then, the water starts to move forcefully, before going completely black and the reflection of
the diver reappears once again. He crosses the water, before becoming hidden by its surface. For a while, the scene is still, and then the man emerges from the pool, now fully naked, and walks away into the forest.

When talking about this piece, Viola states the following:
"*I was trying to get at the original notion of baptism in a way – a process of cleansing or clearing away, and the idea of breaking through illusion. Water is such a powerful, obvious symbol of cleansing, and also of birth, rebirth, and even death. We come from water and in a way slide back into its undifferentiated mass at death. There is the emergence of the solitary figure – the process of differentiation or individuation out of an undifferentiated, natural ground. There is also the suggestion of the events of this world being illusory, or transient, since they are only visible as reflections on the surface of the water. The direct reality is never perceived – like Plato's cave.*" (Viola, 1985, p. 97)

The installation of the piece – a screen which is lit in such a way that it demands all the eye's attention – contributes to highlighting the meaning of the video. A video which, floating just as the man in the scene, uses sound and visual hints to absorb us into its strange, unsettling but at the same time cathartic storyline. The usage of water as a basic element of nature with all its symbolisms, is a fundamental aspect of the piece, and an aspect that we see reappear in many of his other pieces too.

above: Bill Viola, stills from *The Reflecting Pool*, 1977-79

below: Bill Viola, installation view of *The Reflecting Pool* in the exhibition *Moving Portrait*, 18 November 2016 – 7 May 2017, National Portrait Gallery, Washington DC, US.
courtesy National Portrait Gallery, Smithsonian Institution



install references

Bill Viola
2019
Installation View
*Bill Viola / Michelangelo: Life Death Rebirth*
Photo: David Parry/© Royal Academy of Arts

Excerpt from my working artist statement:

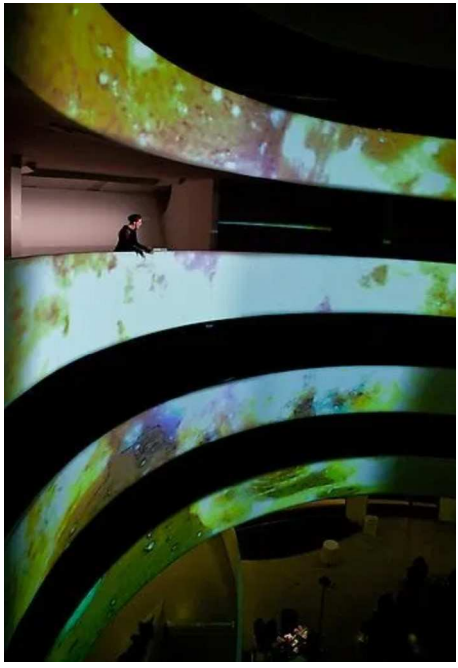
"By letting the pieces work together to take over a space, the observer becomes a participant, contributing to subjective reality through their vision and perception."

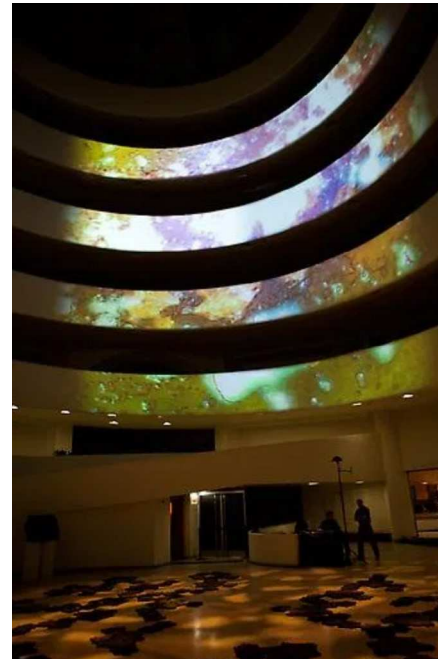
## Matthew Ritchie

"Matthew Ritchie's installations integrating painting, wall drawings, light boxes, performance, sculpture, and moving image are investigations into the complex and transient nature of information. His works describe generations of systems, ideas, and their subsequent interpretations in a kind of cerebral web, concretizing ephemeral and intangible theories of information and time. Ritchie has engaged in many cross-disciplinary collaborations, extending his own projects to explore the possibility of shared systems and aggregations in contexts as diverse as opera, contemporary music, architecture, horticulture, urban design, theology and science."

from http://www.andrearosengallery.com/artists/matthew-ritchie

Notable words: cerebral web, transient nature of information, shared systems





Matthew Ritchie, *Hypermusic: Ascension*, Solomon R. Guggenheim Museum, New York, 2010

Exhibition review of
Matthew Ritchie's *Ten Possible Links* (2014) at Andrea Rosen Gallery in New York

IN A CULTURE OF information overload, especially one saturated with marketing agendas, the search for truth is a tricky endeavor. Long ago, Ritchie opted out of the often-tiresome contemporary art device of piling reference upon reference to expose the substance beneath the superficial. Rather, the artist has mined abstraction to codify how the corporeal, visceral, and ethereal combine to forge reality itself. Call it his own little Big Bang.

Certainly Ritchie is neither the first artist to recognize the transcendental in abstract gesture nor the first to assign meticulous systems to those marks. He does, however, do a fine job of keeping his conceptual investigation from spiraling into the depression of scientific detail--despite his highly cerebral approach. For his fifth solo show with Andrea Rosen, "Ten Possible Links," Ritchie offers compositions that virtually sing the praises of chaos theory and its potential. Nine paintings in oil and ink sparkle with light, drawing viewers into the frame. Diagrammatic fragments anchor the lyrical landscapes that, taken together, are a cipher to the artist's process. Transfixed, a viewer might achieve a meditative state of expansion, which the artist anticipates with the wall work The Temptation of the Diagram (all works 2014), a vast depiction of his cryptogram. As is the case with many of the gallery's artists, Ritchie works in multiple media, and here he offers Night Drawing, a laser-cut aluminum sculpture that provides a three-dimensional view of his language. Despite its posture--coiled like a spiky dragon ready to unfurl itself--the piece fails to instill concern over the negative ramifications that might result from the artist's findings. More successful is the film Monstrance, which mesmerizes with a panoptic collection of apocalyptic imagery, along with its score by Bryce Dessner, intense like an opiate.

For viewers wishing to follow the artist deep into his investigation, Ritchie offers two books* that explain his system in toto. Still, the time it takes to digest and decipher both the artist's philosophy and his constructions makes Ritchie's a game worth playing. The artist's success, it appears, is that he maintains some of the mystery.

Wilks, D, 2014. Matthew Ritchie. Modern Painters, 26(11), p.85.

*

This artists' book contains complete documentation of 'The Temptation of the Diagram', a project conceived at the Getty Research Institute studio while Ritchie was Artist in Residence in 2012. Subsequently the project has been presented in the form of large-scale installations and curated exhibitions around the world. ... Google Books

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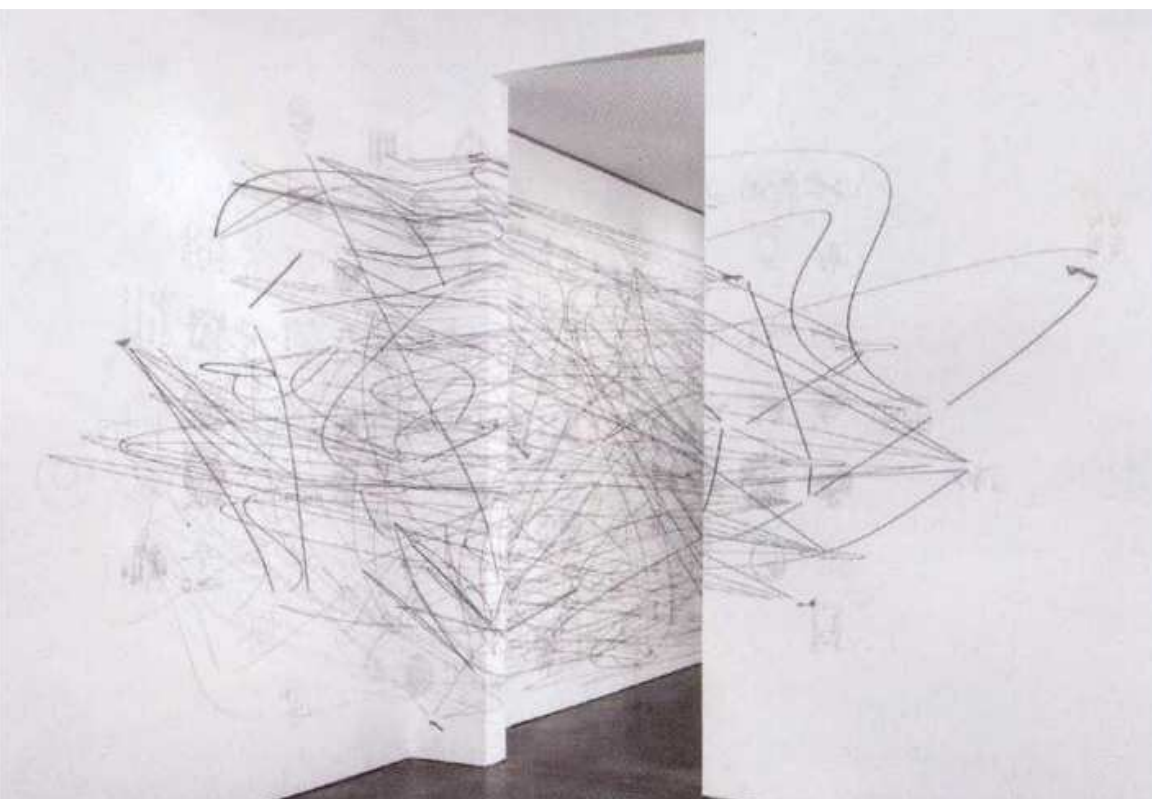
**Originally published:** 15 May 2018

Matthew Ritchie, *The Temptation of the Diagram*, 2014. Printed Photo Tex. Andrea Rosen Gallery, New York, 2014



Below a fragment of an article reviewing Ritchie's *Monstrance (2011)* at L & M Arts in Los Angeles, and his public art commission *The Morning Line* in Vienna, Austria.

"[...] The London-born artist started to think about the universe and its synergy with representation in the 1990s, culminating in a merger of ideas taken from physics, art, mythology, philosophy, and history. All his subsequent depictions of multiple parallel universes and cosmogonies are largely derived from the belief that science is now the dominant art form, as well as the new religion.
[...]
Ritchie started out primarily with drawings, but after moving to New York he expanded his work to include sculptures, digital images, light boxes, musical compositions, creative writing, and structures that function as architecture. "*Working Model*," the title of his 1995 show at New York's Basilico Fine Arts, was composed of seven vertical and horizontal rows in which found equations from physics, colors, and typically human or material characteristics were aligned. Each shape corresponded to a particular color, which was in turn divided into seven different groupings under three further categories: character, affect, and property. This arrangement led to 49 possible different combinations, or a "map." "*The Hard Way*" (1996-97), told in installments over multiple venues, was also an early attempt to explore the Greek theogonies.

[Ritchie's] scientific expertise is well represented by a public art commission titled *The Morning Line* (2008-09), shown at the end of last year in Vienna's touristy Schwarzenbergplatz (in collaboration with Thyssen-Bornemissza Art Contemporary). This acoustic, Gothic-like cathedral/playpen stemmed from the idea of "drawing in space," in the double sense of capturing or moving through space. Some 10 meters high and 20 meters long, it is built out of 20 tons of black-coated aluminum sections.

Ritchie hired the design team Aranda/Lash, the Music Research Center at York University, Toronto, and the engineering firm Arup AGU to help him fabricate a fully programmable and moveable walk-in sculpture, based on his drawings. Each of the modular components has the potential to be replicated at an ever-reduced scale, until it shrinks to the size of a nano particle. The term Ritchie uses to describe the work is a "quantum building," where one of the tetrahedral units can support 22 other smaller ones, and so on to infinity. By means of this method, the artist says, he endeavored to "build a cathedral which [draws in] the universe."

Standing inside *The Morning Line* was indeed an amazing experience. You could see the sky, but what you were really looking at was the metal tracery arched above, mimicking the ancient celestial spheres. The structure also housed a glass wall, on which fleeting images of the universe and apocalyptic scenes were projected. You hear stories told by a number of different voices, accompanied by classical music mixed with sounds created by the structure itself, or with contemporary compositions inspired by and improvised on site. Previously shown at Seville's Center for Contemporary Art (2008) and Eminönü Square in Istanbul (2010), the work is sensitive to time, street noise, and the impact of visitors, so you never have the same light or sound effects twice. It is all rather like attending a screening of the Big Bang in eternal rewind. But chaos is always followed by new beginnings for Ritchie, enabling him to finds cosmic connections in even the worst horoscope."

Krunák-Hajagos, E. (2012) 'Matthew Ritchie', ArtUS, (33), pp. 2–3.

Matthew Ritchie with Aranda/Lasch Arup AGU, *The Morning Line*, 2008-09, installation view, Schwarzenbergplatz, Vienna, June 7 - November 20, 2011. Photo Jacob Polacsek.

Matthew Ritchie, *The Evening Line*, 2008, installation view, 11th Venice International Architecture Exhibition. Photo Massimo Venchierutti. Courtesy Thyssen-Bornemisza Art Contemporary.

Article: Devine, J., 2004. Matthew Ritchie / Exhibit. ArtUS, (2), pp.54-55.

# Matthew Ritchie

BY JOHN C. DE

**Contemporary Arts Museum, Houston TX December 13, 200**

"Proposition Player," Matthew Ritchie's largest installation to date, sprawls through the 8,000-plus square feet of the main gallery at the Contemporary Arts Museum, Houston, positively overwhelming the viewer with a wealth of information to absorb. And that's the idea. Ritchie's starting point in this installation—a black wall drawing that appears to bifurcate and spread out over the floor as a waist-high, flat black sculpture supported by thin rods, some of which are surmounted by small, lumpen, gray sculptures; another floor sculpture of brightly colored and patterned rubber flooring material, meant to be walked upon; a suite of ten paintings hung against the wall drawing and partially obscuring it; another suite of five drawings on Denril; a light box with an image that shifts as you move in front of it; a computerized craps table; and a deck of playing cards designed by the artist—is contemporary cosmologists' belief that we only perceive five percent of the information in the universe, as the other 95 percent (dark matter and dark energy) remains invisible to us. But that five percent, with its miniscule fraction of information, is enough for us to begin to comprehend, through imagination as much as observation, this cosmos we all inhabit.

For most of the last decade, Ritchie has been developing, through a Blakean cast of mythological figures, his own rendition of the evolution of space and time. His work is accretive, each installation building on previous work. For example, the black sculpture titled *The Fine Constant* 2003) is based on a wall drawing from his last installation, but it contains only 25 percent of the visual information in that drawing. The wall drawing in this

wow!!!

*Constant* 2003) is based on a wall drawing from his last installation, but it contains only 25 percent of the visual information in that drawing. The wall drawing in this installation, *The Hierarchy Problem* (2003), is based on the suite of ten paintings, but contains just 70 percent of the information in them. The gray figures sitting atop some of the support rods are based on Ritchie's mythological characters as imagined and sculpted by some nine- and ten-year-old collaborators from a Houston school Ritchie visited last spring, but with 95 percent of their information removed, so that they represent the last five percent of the installation's equation: 70% + 25% + 5% = 100%. (They are still recognizable as Ritchie's characters and he says they illustrate the five-percent rule cited above; if he removed 96 percent of their visual information, they collapse into geometrical abstractions and lose their identifying uniqueness; five percent is the minimum amount of information needed to allow differentiation and distinction—we're sailing on a fine edge.) But bear in mind that's 100 percent of our five percent. So what do we do with all this complicated information that still represents the minimum we're given to comprehend?

A proposition player is a casino employee who either initiates games or fills in if a game is short one player. Ritchie is our proposition player here, inviting us into that great game of chance that is the cosmos. Entering the installation, you're handed a randomly drawn playing card, your ticket to shoot some craps with custom-designed bone-shaped dice (animal bones being the originals of our familiar gaming dice). There are five

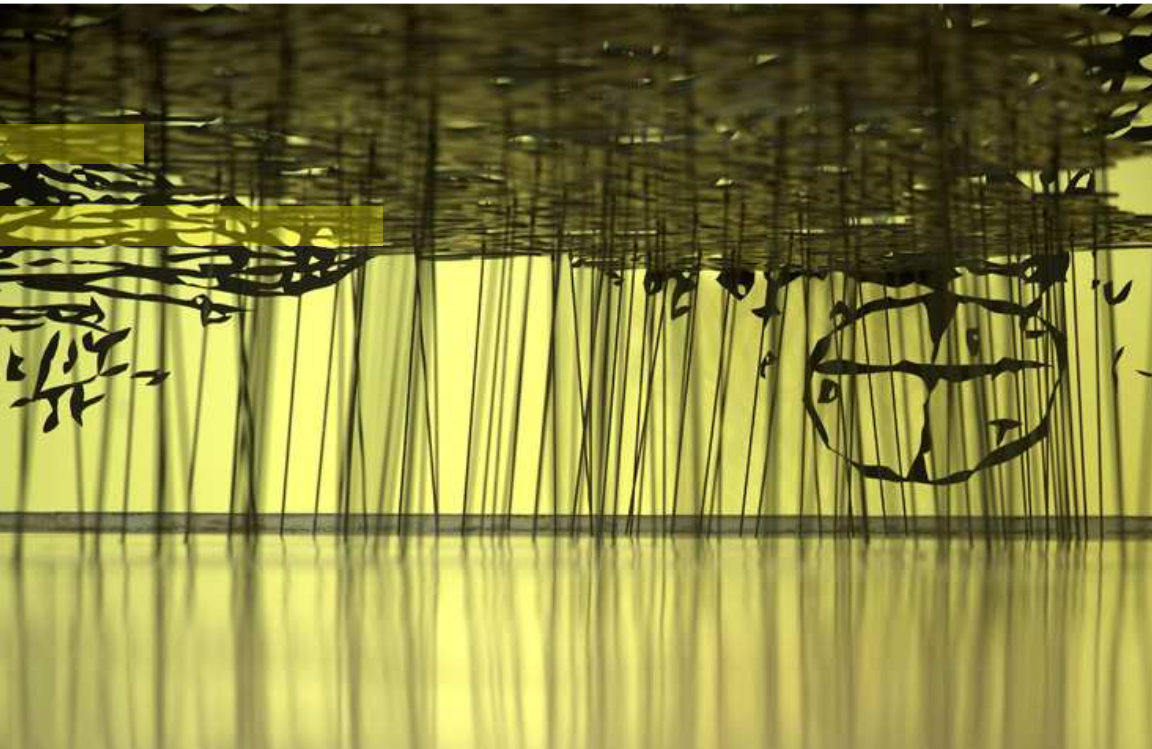
levels to the game (recalling another Matthew), each with a title corresponding to a drawing in the suite collectively titled *Five of a Kind* (2003), arrayed at the opposite corner of the CAM's parallelogram-shaped gallery. As you work through the levels, you "make" drawings via custom software as video projections on the walls; complete the drawing and you move on to the next level. The drawings themselves are each associated with important groups of four that define us and our universe: namely (in order) *The Function Suite*, the four forces underlying the universe's physical structure; *The Box Factory*, the four basic units of measurement; *The Anti City*, the four main components of atomic reactions; *The New Place*, the four thermodynamic states; and *The Slow Tide*, the four nucleic acids in DNA. As you play your game of chance (*how* the drawings are completed is determined by the throw of the dice), you're building worlds, much as the artist does in the studio.

But if that's still not complicated enough, the ten paintings in the installation, all oil and marker on canvas, trace the origins of time and the universe. *Giant Time* and *Where I'm Coming From* (both 2003) are Ritchie's version of the Big Bang and its immediate aftermath, with physics formulas riding along the trajectories of marker lines in the latter painting. The suite continues through the creation of molecules and the building of elements, becoming more personal with the seventh painting, *Self-Portrait in 2064* (2003) (Ritchie was born in 1963). *A Glorious Martyrdom* (2003) and *The Eighth Sea* (2002) mark the dissolution of a central figure; in the last, *After Lives* (2002), several quasi-abstracted figures return to the elements from whence they came (one is labeled "Matthew"; other names presumably represent family and friends) as a regenerative rain falls. Not merely observers of the cosmos, we are each intimately a part of it.

There is so much information here—string theory's eleven dimensions and alternate universes; linear time (Ritchie's fine constant as well as the Joker in his card deck) and the cycles contained within it; chaos theory and the roll of a dice—that there's a danger of overlooking the artist's paintings and drawings. Intelligent and ambitious as the installation is, Ritchie is still principally a painter and a draftsman. Amidst all the bells and whistles of "Proposition Player," the large paintings provide their own, albeit quieter, fireworks. But it's the drawings, hanging in their corner with *Self-Portrait* (no coincidence there), that seem to be the heart and soul of this exhibit. Even with their polish, they have a ruminative aspect, a sense of the artist conversing with himself, working through ideas that, at first, may seem disparate but, given time and wisdom, will unify themselves (the drawing titled *The Anti City* brings $E = mc^2$ together with the Buddhist Eightfold Path). Maybe the artist has a better chance than the physicists at arriving at a Theory of Everything.

Matthew Ritchie, *Proposition Player*
Contemporary Arts Museum, Houston, 2003 | Mass MoCA, North Adams, 2004

oil on canvas, aluminum, dice, steel, foam, gypsum, enamel on sintra,
acrylic and marker on wall, playing cards, projected video, interactive sound, fluorescent lights



"[Eija-Liisa Ahtila's] work is conceptually organized around the construction of image, language, narrative, and space, and she has often probed individual identity and the boundaries of the subject in relation to the external world. Using the visual language of cinema, Ahtila presents large-scale installations with split-screen projections on multiple panels. These viewing conditions, with their simultaneously charged vantage points, break the idea of cinematic perspective and construct an experience of several co-existing times and spaces for being."

- www.mariangoodman.com

Below are quotes from the press release from Eijha-Liisa Ahtila's exhibition *Potentiality for Love* (2018), at Galerie Marian Goodman in Paris.

"Athila takes this idea to an even more global dimension: what is humanity's potential for empathy, not only itself but also toward other species? Is our capacity for love limited, or can it encompass every living being? The artist invites us to reevaluate our own relationship to the environment, to its resources, and to the life that populates it."

"Athila deliberately chose an out-of-date technology to make the image unclear and abstract when viewed up close, but intelligible from a certain distance. One can distinguish from afar a female human figure floating weightless in the Milky Way. As she comes near, she takes on monumental proportions and ends up gesturing silently toward the viewers as if to welcome them in good will."

In an interview about her work *Where is Where?* (2008), Ahtila explains:
"As a simple example: when you go to a bookstore and open a book you have not seen before, and you read a little bit of it, the place and atmosphere and characters of the book start forming a world around you that did not exist before. I suppose the questions of time and space are the main subjects linked with the material I work with-the moving image. So, the questions of time, of chronology, of the directionality of time, are there again in *Where is Where?* And obviously, as the title makes explicit, the questions related to space-in this case, more specifically, the limits of space or the expanses of space."

Eija-Liisa Ahtila, *Potentiality for Love*, 2018
Angular video sculpture of 22 DIP LED modules
(4K/HD); 7 min. 54 sec. loop
Sculpture: 241 3/4 x 151 1/8 x 5 7/8 in.
(614 x 384 x 15 cm)
courtesy of Eija-Liisa Athila and Galerie Marian Goodman
found on www.mariangoodman.com

Notions of *empathy, timelessness, boundaries* and the *external world.* Empathy requires engagement, participation and *dialogue*. It's an investigation carried out by our subconscious. The woman floating weightless in the Milky Way, *weightlessness*.

> "she encourages us to explore how the anthropocentric medium of film might enable us to narrate the very life of the planet - as well as our own with our fellow beings"

- www.mariangoodman.com

Her fictional stories emerge from interviews and extensive research, her own observation and memory. As Ahtila's films are often shown on multiple screens or within complex installations, her stories unfold simultaneously within time and space, thereby creating a multi-layered experience that engages the viewer both physically and emotionally."

- www.parasol-unit.org

left: Eija-Liisa Ahtila, *Studies on the Ecology of Drama 1*, 2014.
Stills from four-channel video installation, 27:40 minutes.
courtesy of Galleri Charlotte Lund, Stockholm.
found on www.art-agenda.com

below: *Eija-Liisa Ahtila*
installation view at Parasol Unit, London
2010
found on www.parasol-unit.org

Nature: trees, rainbows, mountains - living biosphere.

## Tony Oursler

*Eclipse*
October 15th - 20th, 2019
Fondation Cartier pour l'art contemporain, Paris

Below text was taken from tonyoursler.com/eclipse-paris

"Pioneer in video art, Tony Oursler exhibits his ingenious devices—part sculpture, installation and performance—around the world. For the exhibition *Trees*, he creates Eclipse, an installation placed in the garden of the Fondation Cartier, where the trees are used to create images with video projection. He writes: "The enchanted forests are a refuge for our imagination." Inspired by the transformation of Daphne into a tree, the Tree of Life from the Norse cosmogony, or a small metaphorical drawing of a tree by Charles Darwin representing his evolutionary theory, and the new DNA technology CRISPR-Cas9, he creates a dynamic sound and light installation where trees become the center of conflicting world views and come to life with projections inviting the viewer to reconsider technology and nature. Eclipse was conceived and produced specially for the garden of the Fondation Cartier. More than three hours of materials in compressed to form a densely layered experience for the visitor. Thematically concerned with the environment and its relationship to technology and magical thinking, this work invites the participants to contemplate their position within the biosphere. As they move through the area surrounding the building, they will find it is populated with art in the form of talking lights, and a cast of shifting digital projections which include a disaster-zone reporter, new ager, psychologist, medieval wild-woman, the Green Man and an unstable businessman."

Notable words:

Tree of life __ cosmogony __ technology and nature __ garden __ magical thinking __ biosphere __ talking lights __ medieval wild-woman __ the Green Man

above: Tony Oursler, from *Eclipse*, 2019 - please refer to previous page.

below: Tony Oursler, *The Influence Machine*, George Square Gardens, University of Edinburgh, Scotland
23rd – 26th November 2016 - projection into mist = installation reference

*Multiple shadow house* at the Musée d'art contemporain de Montreal, 21.06 - 10.10.2017.

Campbell, J., 2017. Olafur Eliasson / Multiple shadow house. Border Crossings, 36(4), pp.107 - 108.

The liminal veil in *Beauty*, 1993, the mist that envelops you as you pass through this ephemeral sculpture, marks both a ritual passage and a spiritual transit. Using modest but effective means—a misting device, a spotlight and a darkened room—Olafur Eliasson's work exemplifies an aesthetic predicated on the full complicity of the viewer. From a certain perspective as you move around and then through the piece, your eye seizes upon its silver lining, an unlikely treasure in the form of a rainbow hidden in the mist. The welcome spectrum of coloured light lends the aqueous element the suggestion of a portal and a point of transit between states of being. Tremulous, diaphanous and lovely in its mien, the rainbow rewards our complicity with a sense of startled wonder, and it is no exaggeration to suggest that the experience of passing through the moist veil of the waterfall is almost baptismal.

This is Eliasson's terrifically engaging first solo exhibition in Canada and, as with all the works presented in this cogent and compelling selection of works from 1993 to the present, Eliasson has built brave habitable structures for perception to which it is impossible to remain indifferent. *Multiple Shadow House* was just that: a structure for vision constructed from spare physical and immaterial elements that implicate body, image, movement and the perception of self. Eliasson effectively puts the spectator squarely at the centre of his creations. The title of the show is instructive, because the installations conjure up restless ghosts, optical poltergeists, ethereal pleasures, like Ouija boards that summon those ghosts up and out of our own eyes and bodies.

It should be emphasized that Eliasson discourages passive viewing. Rather than simply observing the work, spectators discover that their seeing and motility complete the work, and they become eager and active participants. For instance, after passing through the freshening portal of *Beauty*, I was surprised by how much water there was to brush off my clothes. If I had stood there any longer, I would have been soaked through to my skin. The installations were guided less by sleight of hand—although this is not to suggest that the artist's technical virtuosity was anything less than first rank—than

our own sleight of eye as we tried to make sense not only of what was seen but of the act of seeing itself. Epistemological questioning is at the heart of this artist's project. In this sense, Eliasson demonstrated an unlikely kinship with the work of American installation artist Robert Irwin, whose lifelong investigation of light and space is a worthy precursor to Eliasson's own.

It is tempting to place *Beauty* in the lineage of works the artist has executed before and since. Eliasson's four-month exhibition at the Palace of Versailles—the iconic 17th-century château that once housed the court of Louis XIV—included an imposing waterfall behind the Fountain of Apollo in the estate's extensive gardens, from which the water drops at a height of 40 metres. He also installed a veil of fog in the gardens. And one of his most praised projects was comprised of four artificial waterfalls installed along New York City's East River in 2008.

Olafur Eliasson, *Pool with Stanchions*, 2012-13, printed large format, 2015-16, injet on bonded aluminium, 76 x 110 cm. Collection of the artist.

In the works exhibited here, Eliasson shows himself to be a sophisticated magician—and a dedicated seeker after truth. More importantly, he is a supreme poet of the liminal. A Wallace Stevens of the perceived image, where light and shadow play in new and unexpected ways, Eliasson works with the liminal to explore its status as threshold. The transformations possible only within the ambit of this space can be spatially and temporally complex and profoundly disruptive. In this moment of passage, neither linear nor chronological, in which everything is possible, we arrive at the so-called breach wall in seeing.

In cultural anthropology, liminality is the sense of phenomenal dislocation and ambiguity that characterizes the middle stage of rituals. Participants stand on the threshold between their previous way of structuring identity and time and a radically new way, which the ritual establishes. In *Beauty* the light above the veil of water propels us to the midpoint, and we arrive at the far end of the mist, on the other side of the waterfall, transformed.

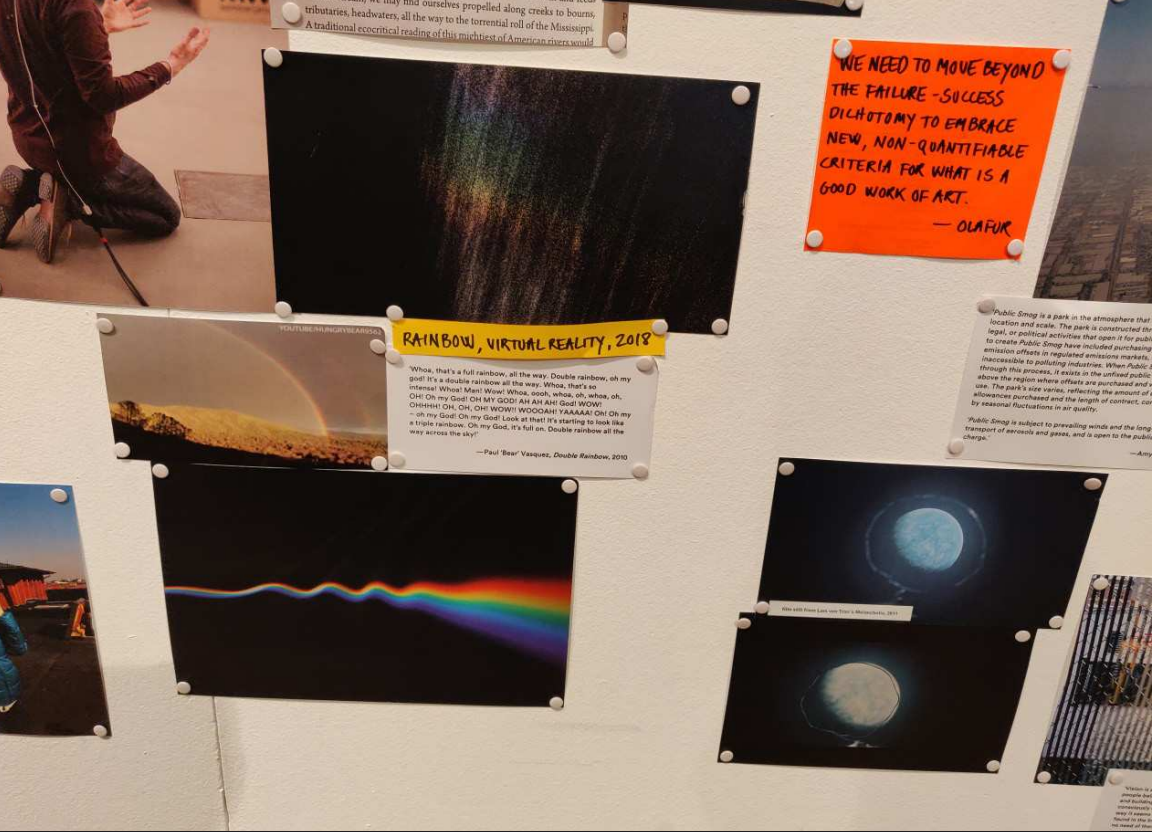
Olafur Eliasson, *In Real Life* - exhibition at Tate Modern from 11.07.2019 - 05.01.2020

below text taken from www.tate.org.uk/whats-on/tate-modern/exhibition/olafur-eliasson

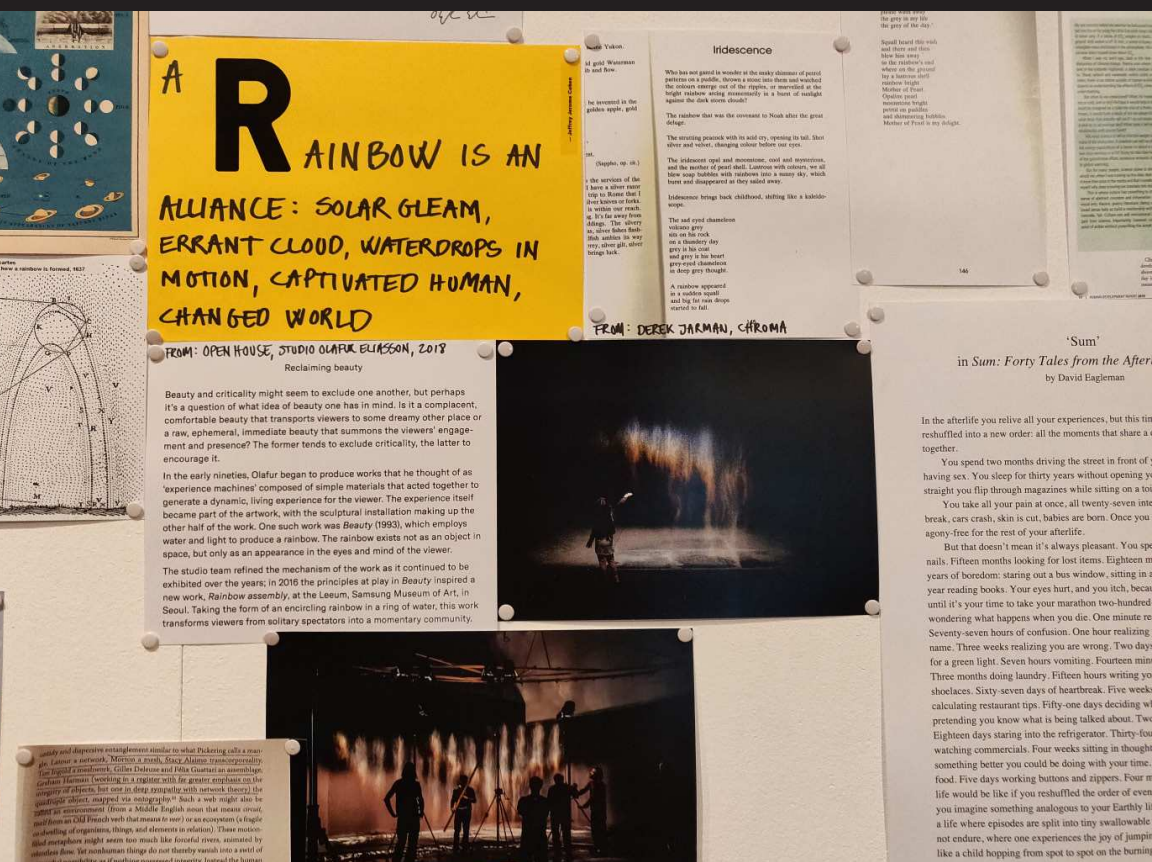
Some artworks introduce natural phenomena such as rainbows to the gallery space. Others use reflections and shadows to play with the way we perceive and interact with the world. Many works result from the artist's research into complex geometry, motion patterns, and his interest in colour theory. All but one of the works have never been seen in the UK before.

Within the exhibition will be an area which explores Eliasson's deep engagement with society and the environment. Discover what an artist's perspective can bring to issues of climate change, energy, migration as well as architecture.

below: my favourite piece of the exhibtion.
Olafur Eliasson, *Beauty*, 1993. Spotlight, water, nozzles, wood, hose, pump.


WE NEED TO MOVE BEYOND THE FAILURE-SUCCESS DICHOTOMY TO EMBRACE NEW, NON-QUANTIFIABLE CRITERIA FOR WHAT IS A GOOD WORK OF ART.
— OLAFUR
RAINBOW, VIRTUAL REALITY, 2018
'Whoa, that's a full rainbow, all the way. Double rainbow, oh my god! It's a double rainbow all the way. Whoa, that's so intense! Whoa! Man! Wow! Whoa, oooh, whoa, oh, whoa, oh, OH! Oh my God! OH MY GOD! AH AH AH! God! WOW! OHHHH! OH, OH, OH! WOW!! WOOOAH! YAAAAA! Oh! Oh my – oh my God! Oh my God! Look at that! It's starting to look like a triple rainbow. Oh my God, it's full on. Double rainbow all the way across the sky!'
—Paul 'Bear' Vasquez, Double Rainbow, 2010

"research wall" at the end of Eliasson's exhibition at Tate, showing the research that went behind creating the works on display.


A RAINBOW IS AN ALLIANCE: SOLAR GLEAM, ERRANT CLOUD, WATERDROPS IN MOTION, CAPTIVATED HUMAN, CHANGED WORLD
FROM: OPEN HOUSE, STUDIO OLAFUR ELIASSON, 2018
Reclaiming beauty
Beauty and criticality might seem to exclude one another, but perhaps it's a question of what idea of beauty one has in mind. Is it a complacent, comfortable beauty that transports viewers to some dreamy other place or a raw, ephemeral, immediate beauty that summons the viewers' engagement and presence? The former tends to exclude criticality, the latter to encourage it.
In the early nineties, Olafur began to produce works that he thought of as 'experience machines' composed of simple materials that acted together to generate a dynamic, living experience for the viewer. The experience itself became part of the artwork, with the sculptural installation making up the other half of the work. One such work was Beauty (1993), which employs water and light to produce a rainbow. The rainbow exists not as an object in space, but only as an appearance in the eyes and mind of the viewer.
The studio team refined the mechanism of the work as it continued to be exhibited over the years; in 2016 the principles at play in Beauty inspired a new work, Rainbow assembly, at the Leeum, Samsung Museum of Art, in Seoul. Taking the form of an encircling rainbow in a ring of water, this work transforms viewers from solitary spectators into a momentary community.
Iridescence
FROM: DEREK JARMAN, CHROMA
'Sum'
in Sum: Forty Tales from the After
by David Eagleman
In the afterlife you relive all your experiences, but this tim
reshuffled into a new order: all the moments that share a
together.
You spend two months driving the street in front of
having sex. You sleep for thirty years without opening y
straight you flip through magazines while sitting on a to
You take all your pain at once, all twenty-seven inte
break, cars crash, skin is cut, babies are born. Once you
agony-free for the rest of your afterlife.
But that doesn't mean it's always pleasant. You spe
nails. Fifteen months looking for lost items. Eighteen m
years of boredom: staring out a bus window, sitting in a
year reading books. Your eyes hurt, and you itch, becau
until it's your time to take your marathon two-hundred
wondering what happens when you die. One minute re
Seventy-seven hours of confusion. One hour realizing
name. Three weeks realizing you are wrong. Two days
for a green light. Seven hours vomiting. Fourteen min
Three months doing laundry. Fifteen hours writing yo
shoelaces. Sixty-seven days of heartbreak. Five weeks
calculating restaurant tips. Fifty-one days deciding w
pretending you know what is being talked about. Two
Eighteen days staring into the refrigerator. Thirty-fou
watching commercials. Four weeks sitting in thought
something better you could be doing with your time.
food. Five days working buttons and zippers. Four m
life would be like if you reshuffled the order of even
you imagine something analogous to your Earthly li
a life where episodes are split into tiny swallowable
not endure, where one experiences the joy of jumpir
like a child hopping from spot to spot on the burnin

# Tacita Dean

below text taken from www.royalacademy.org.uk/article/magazine-tacita-dean

Tacita Dean: "I don't care about the long run. I care about now."
Jonathan Griffin
21.03.2018

With three landmark exhibitions in London this year – including the inaugural show of the RA's new galleries – the artist discusses mysteries of the cosmos, classical mythology and chance encounters at her LA studio.

[...]

Dean explains that *Majesty* (2006), a huge overpainted photograph Dean took of the ancient Fredville Oak, suggested itself after she found a trove of old Japanese postcards of the Forest of Fontainebleu, then started researching the Fontainebleu Oak and old oak trees more generally. The Fredville Oak – one of England's largest and believed to be 800 years old – happens to stand not far from where Dean grew up, in Kent.

[...]

An awe-inspiring snowy mountain landscape, *The Montafon Letter* (2017), which consists of nine blackboards joined together, over seven metres wide, came from the artist wanting to use spray chalk to depict an avalanche. The technique was disappointing, and she resorted to traditional chalk. As with many of Dean's drawings, its surface incorporates hand-written notes (intended to be largely indecipherable) some of which relate to the anecdote that inspired the title: a sequence of avalanches in 17th-century Austria that buried some people, then buried the priest who went to officiate at the site of the burial, then – finally – unburied the priest, still alive.

example of a blackboard drawing, one of seven chalk on blackboard drawings from 1997, 243.8 x 234.8 cm.

Tacita Dean working on 'The Montafon Letter', Los Angeles, 2017
Photo: Fredrik Nilsen Studio. Artwork: Glenstone Museum, Potomac, Maryland. © Courtesy the artist; Frith Street Gallery, London and Marian Goodman Gallery, New York and Paris. taken from www.royalacademy.org.uk/article/magazine-tacita-dean

# Among the Trees, Hayward Gallery, 03.03 - 17.05.2020

In the past couple of months, I have been gradually incorporating more and more nature into my practice. The longer I live in the city, the more I miss and retroactively appreciate the contact with nature that I grew up with. *Among the Trees* was therefore a wonderful experience not only from an artistic, but also a personal and nostalgic one.

"I thought all the trees were whispering to each other, passing news and plots along in an untelligible language; and the branches swayed and groped without any wind. They do say the trees actually move, and can surround strangers and hem them in." the Lord of the Rings, The Fellowship of the Ring, Book 1, page 108.

"Trees are wonderful organisms. Their volume is comparable to the volume of a house. I think of them as places of protection and suspect that my feelings are ancient. Our evolution is intimately connected to the evolution of trees. I would argue our weight, the size of our hands and length of our arms has developed in relation to our first habitats, which were trees. My hand can grasp a branch that is strong enough to support my weight. Not larger not smaller." Markus Vater on Instagram @markus_vater, 13.08.2019

At a time when the destruction of the world's forests is accelerating at a record pace, *Among the Trees* surveys how artists have responded to the crucial role trees play in our lives and imaginations. Spanning the past 50 years – a period that coincides with the modern environmental movement – it brings together artworks that ask us to think about trees and forests in different ways.

Environmental writer Barry Lopez has noted that 'woods defeat the viewfinder... they cannot be framed.' Even a single bough can stretch the limits of our visual apprehension. With layers of interlacing branches and thousands upon thousands of leaves (a mature oak in summer might have well over 200,000), trees are stunningly complex and often visually confounding.

Many of the artists in this exhibition highlight those characteristics in order to engage us in an exploratory process of looking. Subverting traditional depictions of the natural world to help us see familiar forms afresh, their images also call attention to trees as interconnecting structures, chiming with recent scientific discoveries about the 'wood wide web' – the network of underground roots, fungi and bacteria that connect forest organisms.

Unlike classical representations of landscape, many of the works in this exhibition avoid the easy orientation offered by foreground, vista and horizon. Instead they invite us to get lost, and to experience – on some level – that uncanny thrill of momentarily losing our way in a forest, and seeing our surroundings with fresh eyes.

reminds me of Bridget Riley talking about "destabilising the horizon" in her drawings

# Galleries 4 & 5

In *The Tree*, novelist (and amateur naturalist) John Fowles remarks that trees create a variety of times: their existence reflects seasonal changes as well as annual cycles of growth, while their life spans – which can reach thousands of years – often far exceed our own. A tree's rings, meanwhile, comprise a kind of organic recording device that contains information about past climate conditions – including temperature and rainfall – as well as data on events that in some cases date back to earlier eras of human history. As the artist Giuseppe Penone remarks, 'The tree is a being that memorialises the feats of its own existence in its very form.'

A number of artists in this section of the exhibition explore the layered relationship between trees and time. Perhaps unsurprisingly, some of these works read as memorials, or *memento mori*. They confront us with the increasing precarity of arboreal life due to unsustainable human activity, as well as with the relative briefness of our own lives compared to these long-lived organisms. These multifaceted artworks also invite us to recalibrate our mental clocks, and to consider the ways in which different living organisms can be seen to inhabit distinct, but co-existing, time zones.

Hanne Peeraer, *Garden*, 2020

# Tacita Dean

b. 1965, Canterbury, UK

### *Crowhurst II*, 2007

The yew in this photograph is one of the oldest living trees in the UK. Like many ancient yews, it stands in a churchyard. Associated in Christian thought with resurrection and eternal life, yews were also considered sacred by druids, and some predate not only their neighbouring churches, but also Christianity. As Dean's photograph shows, some of the branches of this tree have been propped up with crutch-like supports – potentially misguidedly, as when a yew's drooping branches reach the ground, they are able to take root. *Crowhurst II* is one of a series of 'painted trees' that the artist began in 2005. Setting out to research the UK's oldest living trees, Dean discovered that one grew close to her childhood home, while another – the yew pictured here – shared its name with Donald Crowhurst, an ill-fated amateur sailor lost at sea in 1968 – and the subject of a number of Dean's earlier works.

Tacita Dean, *Crowhurst II*, 2007 © the artist 2020. Courtesy Collection de Pont museum, Tilburg (NL). Photo: Peter Cox

Tacita Dean, *Majesty*, 2006
Giuseppe Penone, *Propagazione*, 1995-2020

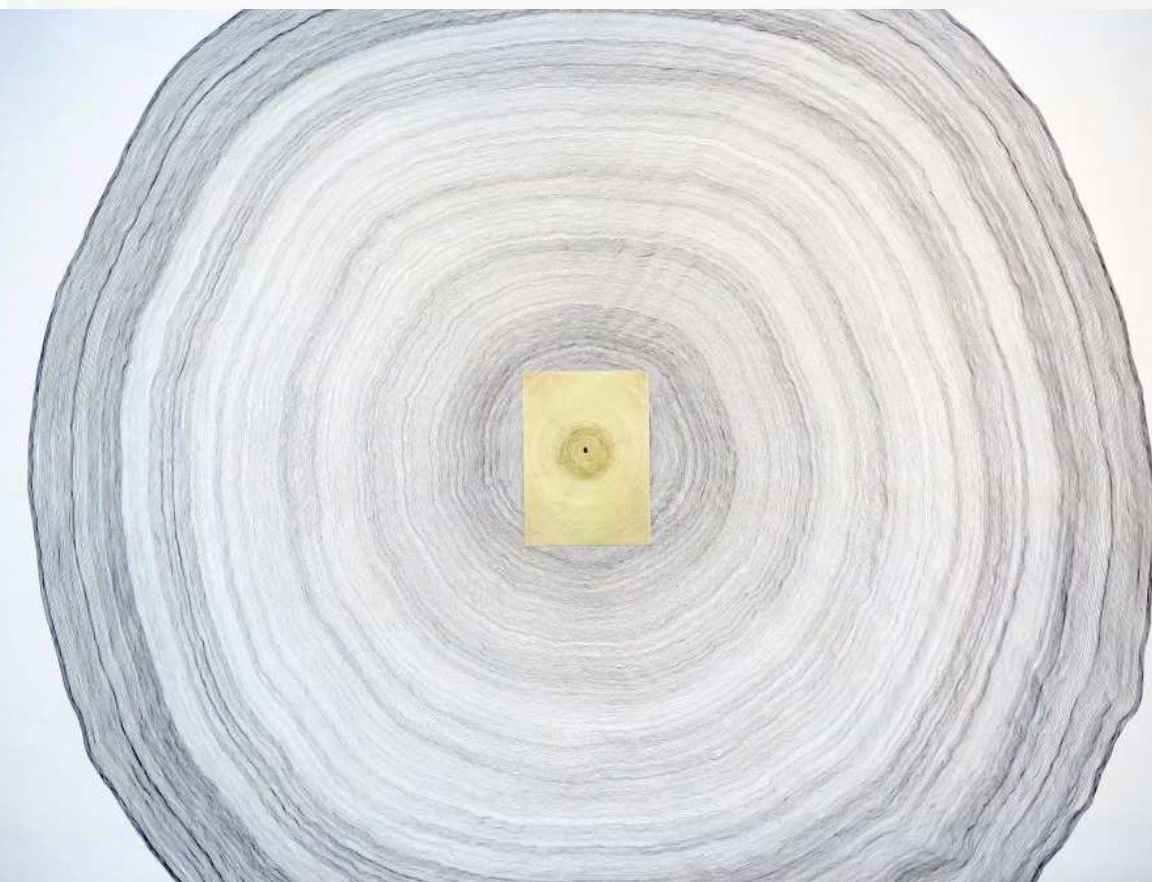
# Giuseppe Penone

b. 1947, Garessio, Italy

### *Tree of 12 Metres*, 1980–82

For Giuseppe Penone, trees are 'perfect sculptures'. 'What fascinates me about trees is their structure,' he comments. 'The tree is a being that memorialises the feats of its own existence in its very form.' For *Tree of 12 Metres*, Penone took a large piece of industrially planed timber and – following one of its growth rings and paying attention to its knots – scraped away at the wood to reveal the organic form of the once-living tree inside. For Penone, every wooden 'door, table, window, or board' contains 'the image of a tree'. Over the past 50 years, he has made a number of similar sculptures at different scales. To him, the process offers 'a new adventure every time'. Penone's *Tree of 12 Metres*, an American larch, is shown here in two parts – its top section upside down.

Giuseppe Penone, *Tree of 12 Metres*, 1980–82 © ADAGP, Paris and DACS, London 2020 © Tate



# Eija-Liisa Ahtila

b. 1959, Hämeenlinna, Finland

***Horizontal – Vaakasuora*, 2011**

Eija-Liisa Ahtila describes this massive, multi-part video-work as a 'portrait of a tree'. The spruce is common to the artist's native Finland. With this work, Ahtila attempts to show the tree in its entirety, as far as possible retaining its natural size and shape. Because a tree of this scale does not fit easily into a human space, it is presented horizontally in the form of successive projected images. Each of the six sections plays slightly out of sync. The work is a record of a living organism. It also deals with the limits of recording technologies that we use to create images of the world around us. In particular, it addresses the difficulty of perceiving and recording other living beings through methods invented by humans, which record and reproduce our human perspective of the world.

Eija-Liisa Ahtila, *Horizontal – Vaakasuora*, 2011 © Crystal Eye, Helsinki. Courtesy the artist and Marian Goodman Gallery 2020. Photo: Adrian Villalobos

GALLERIES 1 & 2

# Thomas Struth

b. 1954, Geldern, Germany

***Paradise 11, Xi Shuang Banna, Yunnan Province, China 1999*, 1999**

For his series *New Pictures from Paradise* (1998–2007), Thomas Struth took photographs in forests and jungles around the world – from Australia and Japan, to China and the United States. The series grew out of time spent observing the trees in the garden of his Düsseldorf flat. Studying the dense network of branches gave Struth the idea of making pictures so full of information that they might encourage us to abandon our analytical tools, and 'surrender to just looking'. All of the photographs in this series share the same decentralised composition. There is no single focus point, and no clearly defined foreground or background. Instead, our eyes are encouraged to roam across the image – taking in and getting lost in the wealth of detail.

Thomas Struth, *Paradise 11, Xi Shuang Banna, Yunnan Province, China, 1999*, 1999 © Thomas Struth 2020. Courtesy the artist and Marian Goodman Gallery

Andreas Siqueland, *Hole in the Woods*, Galleri LNM, Oslo, 08.08 - 31.09.2019 Photo: Jørgen Craig Lelo

# Andreas Siqueland

Below a text by the artist, dealing with issues which I am personally also encountering in my practice. The choice not to highlight any particular part of the text was deliberate, because of the reflective and holistic nature of the text. The text does not directly relate to the images, but I believe it works independently.

## *A Place for Painting*

Paintings have an ambivalent relationship to place. Expressions like "being in place", "depicting a place", "belonging to a place", etc. are common. At the same time, paintings are movable objects, which gives them a "placeless" quality. This is further complicated by the way paintings relate to other paintings. How "place" appears in one painting transforms our vision of the next. A shifting chronology develops, as if all these places are all part of the same place, the same story, told and retold, many times over.

For the last 150 years or so, painting has navigated a precarious path alongside photography, often defining itself in opposition to it. I work traditionally, using oil, acrylic, gouache, ink and watercolor on canvas, board and paper. After spending several years painting from photographs and being fascinated with how I could translate these pictures into another type of material reality, a type of dependency had developed, as if I was not able to paint without having a pre-defined image to work from. I began to feel a lack of presence and a loss of agency in relation to my own work. Instead of opening up my paintings to new worlds, painting after photography felt like a closure.

This turning point in my work probably did not only have to do with the medium of photography itself, but a general condition that I attributed to photography as a medium that plays a vital role in our present systems of representation and the position of art within this context. In my work I was especially interested in observing nature and investigating the dialogue between landscape and painting. The growing removal I had experienced in working from photographs seemed to be symptomatic of the way I was relating to nature. I started to wonder if it would be possible to make paintings without photographs. Could I rediscover a place for painting outside a photographic frame of reference? To what degree were my paintings a product of their surroundings? How would they change if I moved and started working in a new location?

To further pursue these types of rhetorical questions I applied for a fellowship within the Norwegian Artistic Research Programme at the Academy of Fine Art in Oslo.[1] As a means to perform a self-critical analysis of my own process, I decided to leave the studio and to paint outdoors in search of a place for painting. I hoped that by studying geographical places and the topography of landscapes through painting, I could rediscover a more intimate connection to painting's inherent topos and to my surroundings.

*Painting after photography*

Photographs are intriguing because they offer a set frame to work from. Since photographs are impressions of time and space – these parameters makes one curious about the how, what and where of the image. In my experience of looking through a viewfinder, what is happening outside in the margins significantly, defines and determines the cropped image. Painting after photography offered a way to start to reflect, observe and fantasize about the ends of the image. A conversation in paint became a way to delve into another type of life form besides the mechanical. In retrospect, I wonder if the impulse to paint actually came from photography; as if it was a catalyst for these adventures. In high school I could spend countless hours in the darkroom developing photographs. I was fascinated by how the exposed image gradually appears out of nothing. Similar things would happen on the canvas, but the cause and effect was not as magical, not as mysterious. To make a painting fast and precise became a feat because it allowed me to reenact what I had experienced with photography.

With the digital turn in photography, which more or less coincided with my own art education in the beginning of the new millennia, I found that the type of séance-like escapism that traditional photography had offered, was no longer possible. The digital image presented many new possibilities of transformation. This made it more evident that photographs were constructions just like paintings, that could be assembled and disassembled at will. The act of applying paint to canvas naturally embodied the act and concept of construction. It was then a paradox, that artists like myself, working with constructed scenery like landscapes, should still feel that photography was the evil enemy of painting that set aside a direct encounter with place. By painting from photography I was competing with a perfect flawless image, which was faster and much more effective than myself. In my stubborn pursuit of new pictures to paint, I realized that painting was all but this. The bodily experience of making a painting was something else. It had a quality of translating an experience into something material, something real – a here and now, which I could not perceive or experience in the same way anywhere else. I had to hold on to this.

*A return to outdoor painting*

The experience of displacement I had felt in my own work raised a series of questions regarding the creation of place in paintings and their connection to their surroundings and the landscape. To investigate this further I decided to return to plein air painting. This seemed the most honest and direct way to consider how geographical location relates to painting. It offered a means to cancel out digital noise and open up my painting process to the influences of nature. At the same time it enabled me to analyze the work taking place indoors from a different perspective.

The choice to return to outdoor painting was not haphazard. I had started painting outdoors during my first year of art school. Since that time, I was deeply impacted by conceptual artists of the 1970s. Since that time, I was deeply impacted by 1970s Conceptual art and Land art, which is often only known through photographic documentation. In photographs of earth sculptures, like Robert Smithson's Spiral Jetty (1970) for instance, the sculpture is a participant observer in the landscape. By painting outdoors it was as if I could myself embody this role; letting the elements transform my painterly practice. Using Land art as a model, I wished to free myself from certain traditional painter-subject conventions and open up a space for more truthful observations. I hoped this implicit critique performed through nature could be mirrored by another type of presence in the paintings themselves.

*Itinerary*

It has often struck me that artists who change their whereabouts, often change their way of working and style along with it. This was also visible in my own practice. Upon completion of art school in 2004, together with my friend and colleague Anders Kjellesvik, I had started the travel-based collaboration aiPotu[2] making work in the public space. The first thing we did was to buy a mobile home and travel through Europe in the form of a number 8. On our journey we set ourselves the mandate not to repeat our interventions, which soon became a mantra for common practice.

Individually we had both studied painting and printmaking. Painting offered another space of reflection apart from this more openly socially engaged practice. By going on a journey and discovering geographical locations in person, my aim was to circumvent a textual description of the world, and see the world through painting. Ideally I wanted to be faced with the possibility of arriving in a new place without a preconceived idea about what to paint or the style or manner in which to paint. In turn, this should make the particular circumstances of the place I visited visible in the way the painting was made. I hoped I could achieve it by keeping an open itinerary, defined and directed by encounters, findings and chance occurrences underway. However, performing this unplanned journey turned out to be much more subjective and personal than first envisaged. Learning-by-doing also meant I would have to consider the actions of my predecessors. While retracing the footsteps of plein air painters, I revisited the landscapes of my youth.

[1] Hereafter referred to as "The Academy"
[2] For more information see www.aipotu.org.

Siqueland, A., n.d. A Place For Painting. [online] www.researchcatalogue.net. Available at: <https://www.researchcatalogue.net/view/103046/263610> [Accessed 23 April 2020].

Andreas Siqueland, *Hole in the Woods*, Galleri LNM, Oslo, 08.08 - 31.09.2019 Photo: Jørgen Craig Lelo

Andreas Siqueland, *Hole in the Woods*, Galleri LNM, Oslo, 08.08 - 31.09.2019 Photo: Jørgen Craig Lelo

Andreas Siqueland, *Bridges, Arches and Pathways,* Kunstnerforbundet, Oslo, 28.02-31.03.2019

# Piet Oudolf

Dutch landscape architect Piet Oudolf, the man behind the planting on the High Line in Manhattan and Peter Zumthor's Serpentine Pavilion in 2011, talks to Cate St Hill about his garden for Hauser & Wirth Somerset, including the perennial meadow that sits behind the gallery buildings.

Blueprint: Tell me a bit more about how you became involved in Hauser & Wirth Somerset.

Piet Oudolf: I had friends in Hadspen House, near here, who were gardening there in the Eighties and Nineties. I also have a lot of friends in England, so in the garden world they all knew me, but now I'm coming to work in the art world.

Blueprint: What was your inspiration for this garden?

Oudolf: Talking with [gallery founders] Iwan and Manuela [Wirth] the brief was that people coming to the gallery should be surprised to find a garden. It was to be an extension, something special that people would come across unexpectedly. So we kept the landscape at the front very easy, like the farmyard that was there before, and this [the meadow] we would make more spectacular. We wanted to create this very dynamic perennial landscape.

Blueprint: The gallery is currently showing some of your preparatory sketches, which show a patchwork of colours and symbols. Talk me through your design process and how you start a project.

Oudolf: I first have an idea and I start to think how it will look. I start with a drawing, bringing a list of plants together that will make the performance. It's like putting actors on a stage; you need particular characters to make it happen.

Blueprint: Your designs are always very natural and unconstrained. How much is down to nature and how much is down to you?

Oudolf: All the plants used here are not competitive, not overseeding, so that is an advantage. They have a longer lifespan than most other plants so they are not annual, or biannual, they don't die after flowering. That's part of the game, they shouldn't push each other out. The meadow here isn't wild, it's all in groups, like you see on the drawings.

Blueprint: Had you worked in England before? Do you think gardens in this country have a national identity, a certain 'Britishness' for example?

Oudolf: They've lost that since I've come here! I've worked in England since 2000 and earlier. Everyone in the plant world knew my name, there was even a time when they thought I was English -- people thought I was living here. I was once quoted as 'one of the most important garden designers in England', and I was the only one outside of England!

Blueprint: Did you have any gardeners or designs that influenced you when you were a young designer?

Oudolf: No, there were people in the plant world who had different ideas. I was influenced by friends; we were trying to escape the traditional way of gardening, which was all about decoration. We tried to create more spontaneity in a garden and gardens that appealed more to people. We tried to put another layer on the design, a deeper, more emotional layer It's more than prettiness, it touches your soul. If you think of decoration it's about a nice flower, but if you think of gardens as a metaphor then you think of life and how you feel -- it's more romantic and it gives you a strong sensation of feeling good.

Blueprint: What are the ingredients for a perfect garden?

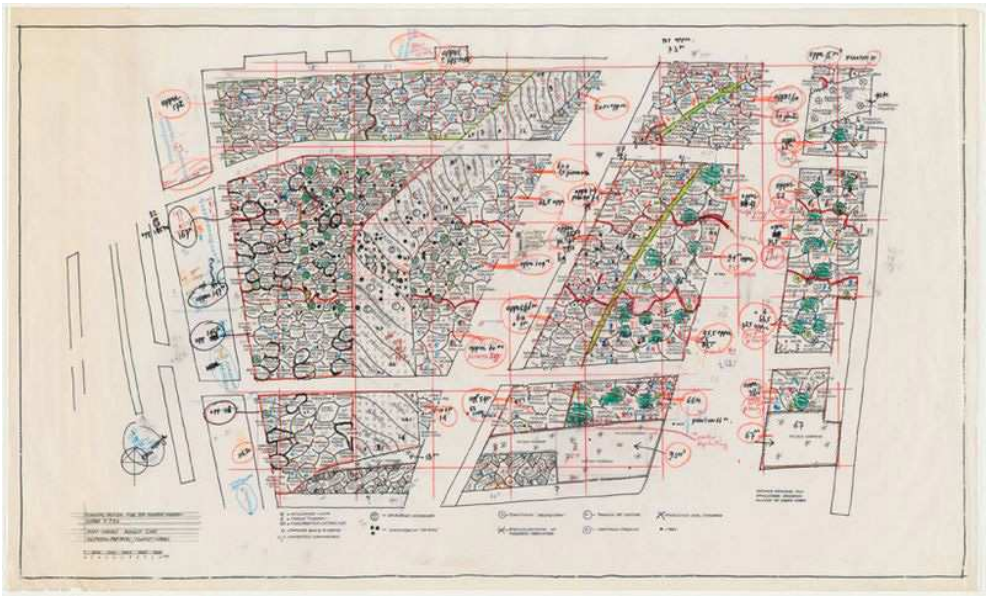
Oudolf: The perfect garden needs knowledge and the intensity of what you can bring to other people, and that's not easy. It's like in art: you paint and not every painting is art, but if you can really bring to other people what you feel, that is the secret.

Blueprint: How do you feel about letting the garden go to the public now? Are you protective of your gardens, are they like your babies?

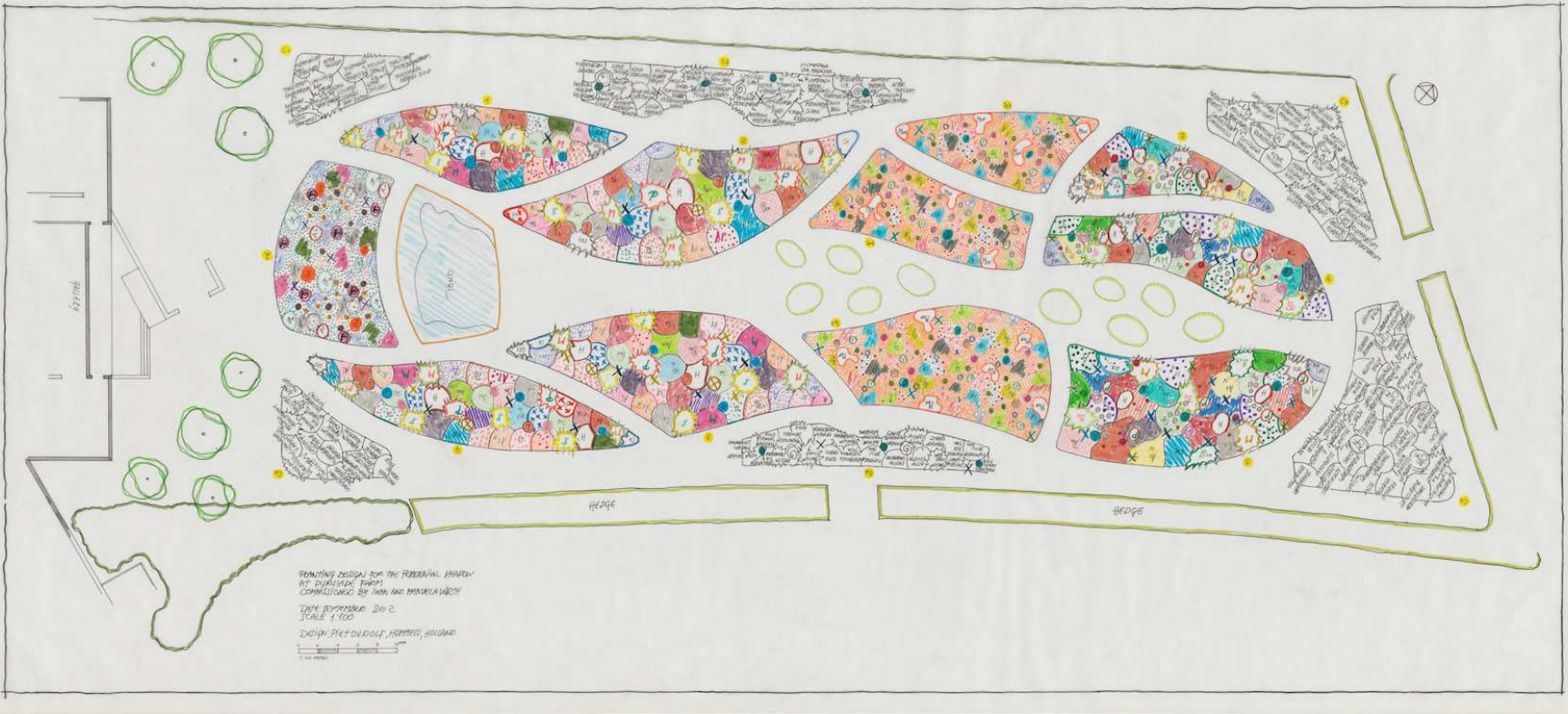
Oudolf: I like children in the garden but not running around without their parents. It's more about the parents who don't respect the garden. But if I was a child I would love to run through here and play hide and seek. You should be aware of how easily you can destroy a garden. Gardening is a never-ending product. You cannot go back to all your gardens. I can take distance but as long as people take care of them; I see them as my babies. But if they don't take care, I can let them go. I also see them as attempts, to try to give people something that they will want to nurture.

Designcurial.com. 2014. Piet Oudolf - Interview - Designcurial. [online] Available at: <http://www.designcurial.com/news/piet-oudolf-4437379/> [Accessed 23 April 2020].

garden designed by Piet Oudolf for Hauser & Wirth, UK



Piet Oudolf, coloured pen and pen on tracing paper. Courtesy of the artist and Hauser & Wirth

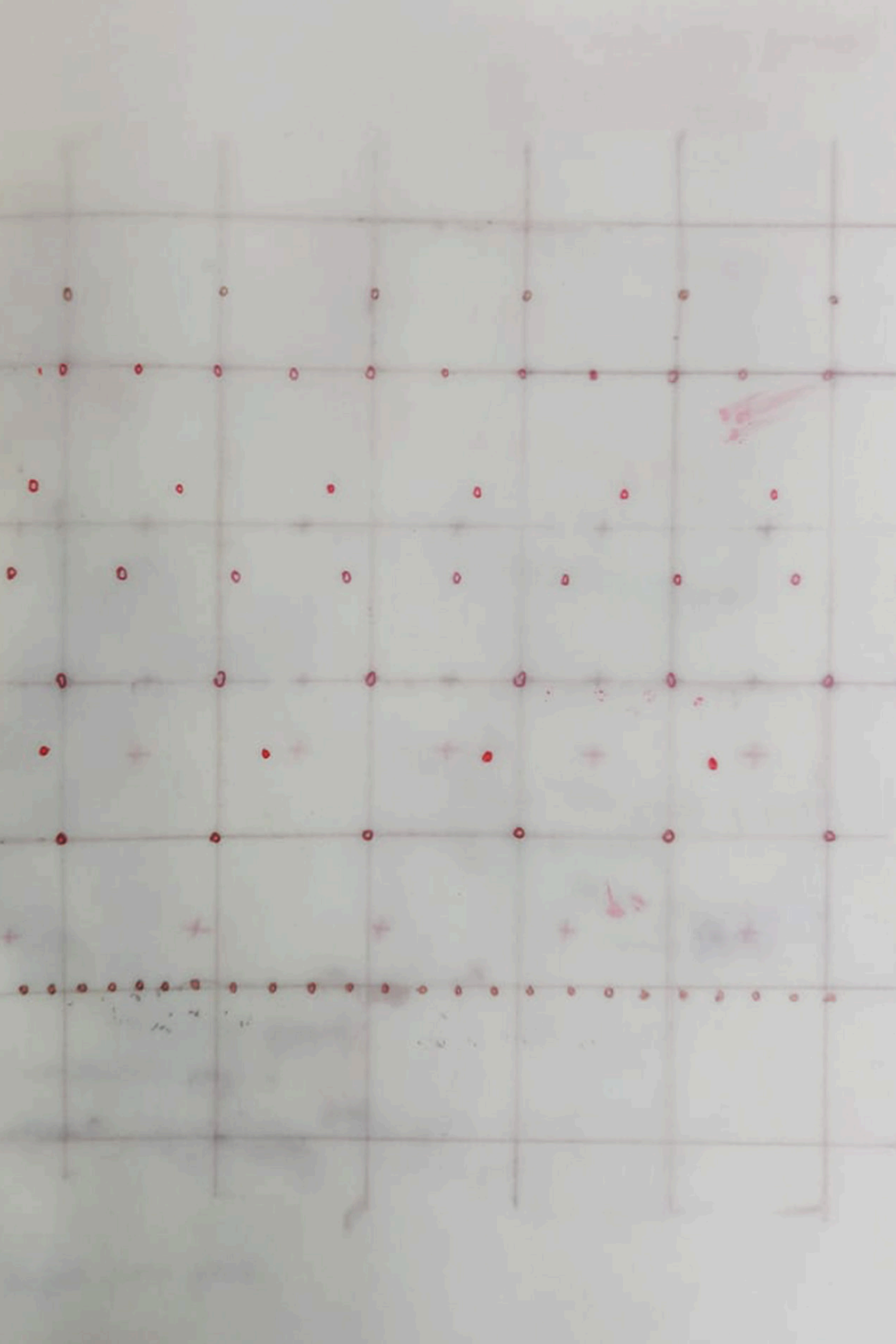



PLANTING DESIGN FOR THE PERENNIAL MEADOW
AT DUIVENDIJK FARM
COMMISSIONED BY HAM AND MANDELA WORTH

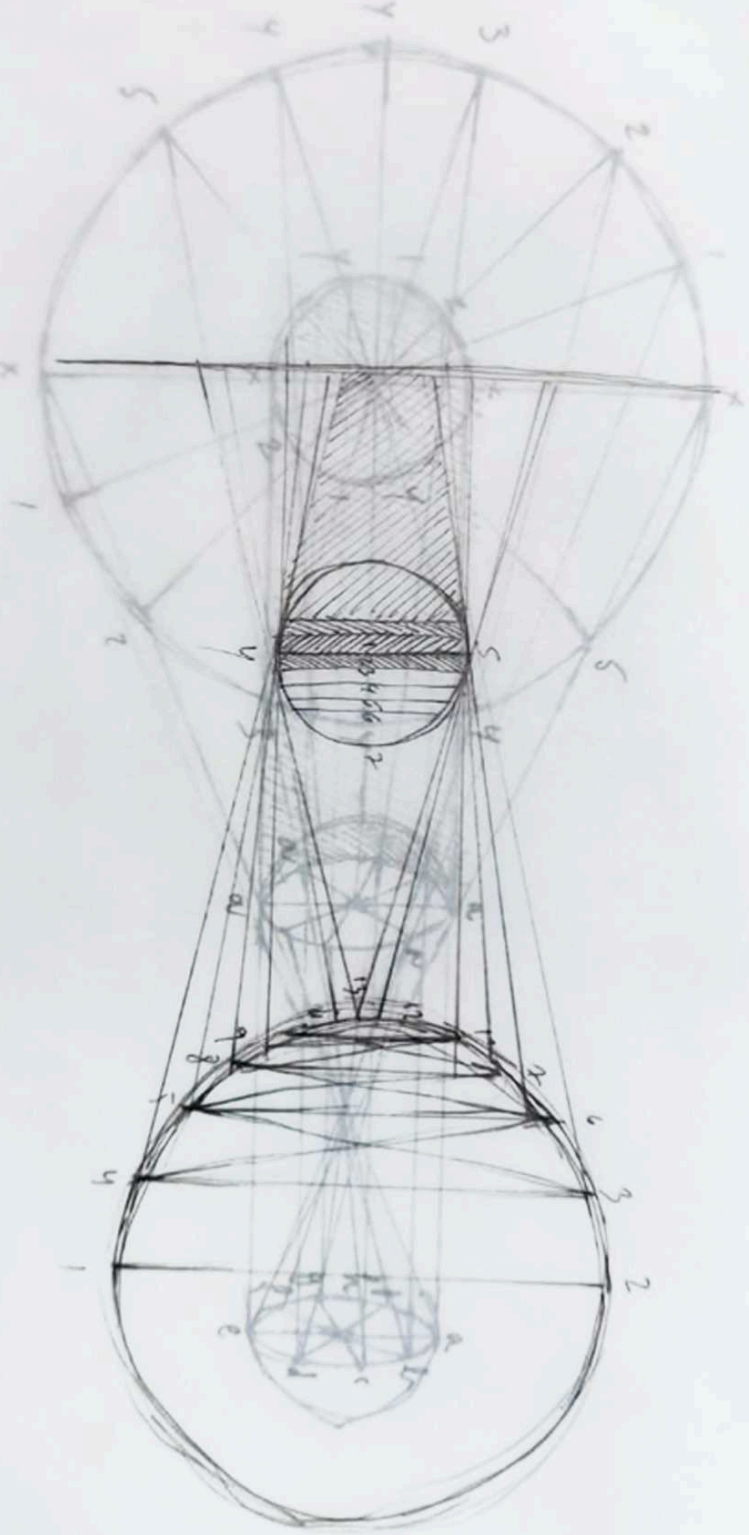
DATE SEPTEMBER 2012
SCALE 1:100

DESIGN: PIET OUDOLF, HUMMELO, HOLLAND

garden designed by Piet Oudolf: Ichtushof, the Netherlands



# II
# Techniques of the observer



# Physiological optics & light

this page and next: selected picks from *Jüttner, M., 2007. Physiological Optics. In: The Optics Encyclopedia, Volume 1. Wiley-VCH Verlag GmbH & Co. KGaA., pp.2511-2550.*

"Physiological optics is concerned with the perceptual processes in the eye and its associated neuronal structures in the brain. This article provides an overview of the structure and functionality of the visual system, and of experimental and analytical techniques used to study the principles of visual information processing. [...] More specifically, physiological optics aims at a scientific understanding of how information is extracted from the light entering the eye in order to produce sensations such as brightness, shape, color, or movement.

[...] Insight into the functioning of human vision primarily draws on research in two disciplines: neurophysiology, which often extrapolates conclusions drawn from animal studies, and psychophysics, which endeavors to quantify visual performance in behavioral experiments. Both are supported on a theoretical level by computational approaches to vision. The latter often receive some inspiration from related fields, such as computer science, robot vision, and artificial intelligence.

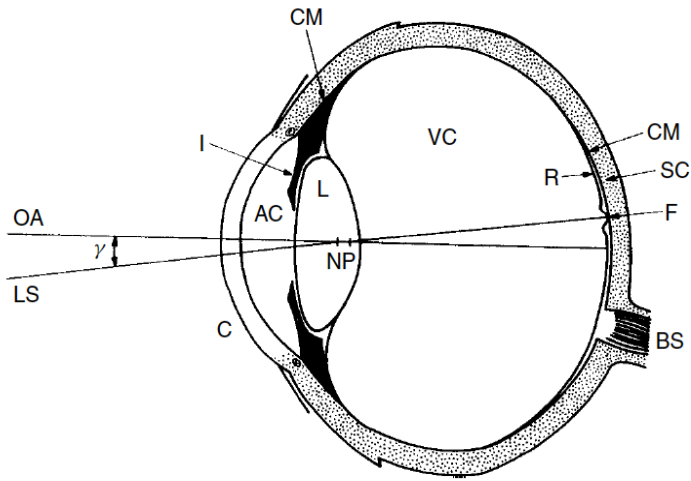



**Fig. 1** Optical system of the eye. AC: anterior chamber; BS: blind spot; C: cornea; CH: choroid; CM: ciliar muscle; F: fovea; I: iris; L: crystalline lens; LS: line of sight; NP: nodal points; OA: optical axis; R: retina; SC: sclera; VC: vitreous chamber; $\gamma$: angle between LS and OA

*Biophysics of the Eye:*
*Optical System and Retinal Image*

The astronomer Johannes Kepler was the first to successfully apply the laws of refraction of optical surfaces to the dioptric apparatus of the eye. Kepler, in 1604, also postulated that an inverted image of the object was projected onto the inner surface of the retina – a prediction that was experimentally confirmed by the Jesuit priest Christoph Schreiner in 1619.
Using an enucleated eye, Schreiner cut a window into the sclera and covered it with

an eggshell. With this method he could see an inverted image directly. In the time before Kepler, philosophers and scholars were considerably worried by the inverted-image problem and complicated optical models were devised to ensure an upright representation of the visual world. However, from the perspective of modern brain research, the inverted image problem is an illusionary one as it results from the coordination between perception and motor action rather than from image information per se. Visuomotor coordination has been shown to be extremely adaptive: when the visual image is "reinverted" on the retina by means of prisms or mirrors, the world is perceived upside down only transiently, and within a few days of adaptation "normal" vision is restored, provided the subject can move and interact with objects in his surroundings. [...]

The iris, which is located in front of the lens, acts as aperture stop of the eye with the pupil as central opening. [...] The retina constitutes the image surface of the eye. The sensory input signal is generated by about 120 million photoreceptors that transform the light into a complex pattern of neuronal activity in about 1 million optic nerve fibers at the output level of the retina.[...]

*The Structure of the Neuronal Visual System*

The axons of the retinal ganglion cells leave the eyeball as the optic nerve. The vast majority of these axons project directly to the corpus geniculatum laterale (CGL), the next higher structure in the visual pathway (Fig. 6). Before reaching the CGL, the axons pass the optic chiasm, where fibers from both eyes are sorted in a way that fibers from the right halves of both eyes are sent to the right CGL (and analogously for fibers of the left halves of the eye).

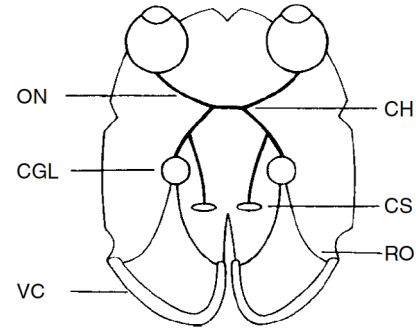



**Fig. 6** Schematic structure of the visual system. ON: optic nerve; CH: chiasma; CGL: corpus geniculatum laterale; CS: colliculus superior; RO: *radiatio optica*; VC: visual cortex

*Binocular vision*

Binocular vision is the basis of depth perception. When fixating a target P with the two eyes, their axes usually have to converge, so that the target is imaged onto the central foveae of both eyes (see Fig. 14). It appears that both retinae have implanted more or less equal coordinate systems. Corresponding sites of the two retinae are sites with the same coordinates. When a second target A is presented so that the angles αr and αl are equal, it is imaged on corresponding sites of both retinae and the target is seen as a single target. When looking straight ahead in an erect position, all sites in the sodefined horizontal plane the images of which fall on corresponding retinal sites lie on a circle, the Vieth–Mueller circle.

They appear as single targets at the same subjective distance as target P. When another target B is presented, which does not lie on the Vieth–Mueller circle, the angles βr and βl are not equal and the

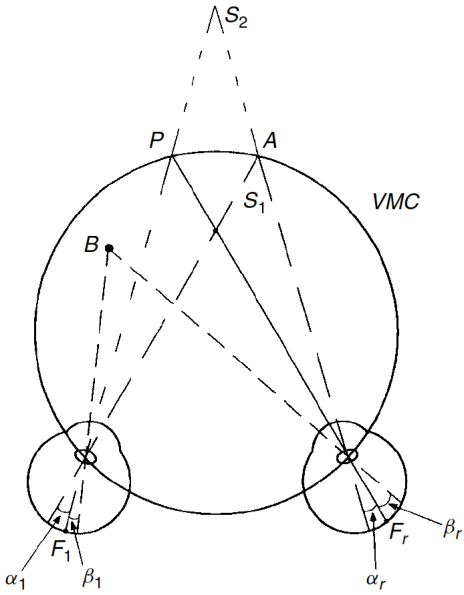



**Fig. 14** Geometry of binocular depth perception. For explanation, see text

target may produce two separate percepts in the two eyes.

The difference βr − βl is called disparity. When the disparity for target B is not too large, it may be perceived as a single target and usually at a distance smaller or larger than that of P, according to the geometric situation and the sign of the disparity. In that way, stereoscopic depth perception is created. It has to be emphasized, however, that the fusion of two retinal images with limited disparity to a single percept does not implicate stereoscopic depth perception. Many people with good fusion lack stereoscopic perception, often without knowing it. A lacking ability of fusion may cause binocular twin images, which is a serious visual impairment.

In monocular vision, the perceived direction of a target is identical with the line of sight. When viewed binocularly, the lines of sight of the two eyes are different, and the target appears in a direction intermediate between these two lines of sight. To cope with this situation, H. v. Helmholtz and E. Hering introduced the concept of a single imaginary cyclopean eye somewhere between the two natural eyes, which determines the binocularly perceived direction. This cyclopean eye is not necessarily in the middle of the forehead due to a possible dominance of one eye over the other.

To analyze binocular disparity, the visual system must determine which elements in the retinal image of one eye correspond to elements in the retinal image of the other eye. Referring to Fig. 14, instead of fusing P with P and A with A, the visual system could also fuse P with A or vice versa, thus leading to S1 or S2. However, under normal viewing conditions, usually the correct correspondence is found. The classical explanation of the correspondence problem is to assume that the fusion of the two retinal images maximizes the correspondence between image elements. This would imply that fusion is preceded by recognition, or that monocular form perception precedes binocular fusion [59]. However, such a notion was challenged by experiments using random-dot stereograms [60]. Such stereograms are computer-generated random-dot twin images that are identical with the exception of a small area (for example, a square), where additional disparity is introduced. The fact that this area can be localized after fusion, but not when in monocular view, demonstrates that binocular fusion may precede form discrimination.

Stereoacuity is defined as the smallest disparity that can be discriminated from zero, that is, objects with such a disparity can just be perceived as having another distance than the fixation point. The displacement of such objects against corresponding sites is 5 to 10 of arc, which is about the same order of

magnitude as vernier acuity. Stereoacuity can be considerably improved by enlarging the effective separation of the two eyes, an effect used in stereoscopes and stereotelescopes.

Depth perception does not only rely on stereovision. Rather, the latter may be overridden by other depth cues, such as occlusion, perspective, shading, or by the knowledge we have of familiar objects. One example is the hollow mask illusion [71]. A hollow mask of a face, seen from behind, will appear as a normal face, with the nose nearer to the observer than the forehead. Only at very closerange, stereoscopic information dominates, making the ask look hollow. Both familiarity of faces and a general preference for convexity favors the illusory face-like interpretationof the hollow mask [72]. Depth perception is also improved by movement of the observer, for example, in a car, or when skiing in a errain with small luminance contrasts.
[...]

*Color Vision*

The manifold of different human color sensations is based on the fact that the retina contains three types of cone photoreceptors with different absorption spectra. The different receptor types were postulated by J. C. Maxwell in 1856 and, in more detail, by H. v. Helmholtz in 1867 on the basis of color mixture experiments. However, even at the time of Helmholtz, many effects in color vision were known that could not easily be reconciled with the three-receptor theory. Some of these effects are the following:

*Complementary colors*: There are two independent pairs of complementary colors: red–green and blue–white. A mixture of such colors in adequate portions results in a neutral white. Independent pairs are formed when a green hue is selected that is neither bluish nor yellowish and a yellow hue that is neither reddish nor greenish.

*Color contrast:* When, for example, a red field is presented to an observer for about half a minute and then it is exchanged for a white field, this white appears in an unsaturated green, very near to the complementary color of red, and analogously for other colors. This effect is called successive color contrast.Whenasmall field of neutral white is surrounded by a large red field, the white looks greenish.

*Afterimages:* When exposed for about half a minute to a strong colored light with high saturation, an observer afterwards perceives an afterimage of the light source, the color of which is either similar to the light source itself or to the complementary color, depending on whether the background for this observation is bright or dark.

*Optical Illusions*

The primary task of the visual system is pattern analysis and object recognition rather than a veridical representation of the environment. The achievement of this goal requires complex nonlinear image processing, which in turn implies specific image distortions. Usually, such distortions remain unnoticed because one is accustomed to them from early childhood and ambiguities in image interpretation may be resolved by contextual information.

However, in special situations and under laboratory conditions, they can become manifest as so-called optical illusions. Such illusions have been widely studied in vision research in order to analyze subprocesses underlying pattern recognition. However, their knowledge is also useful in daily life to avoid misinterpretation of visual information. In the following, three classes of illusions will be briefly discussed: illusory contours, 3D illusions, and aftereffects. [please see full article for in-depth description].

[...]

As evident from this short account, the theory of vision is by no means complete. There is little chance that any of the subdisciplines involved – neurophysiology, psychophysics, and computational vision – will be able to provide a unified theory on their own. Rather, the future success in this field, in particular with regard to the understanding of object recognition, relies on the close cooperation of these complementary approaches.

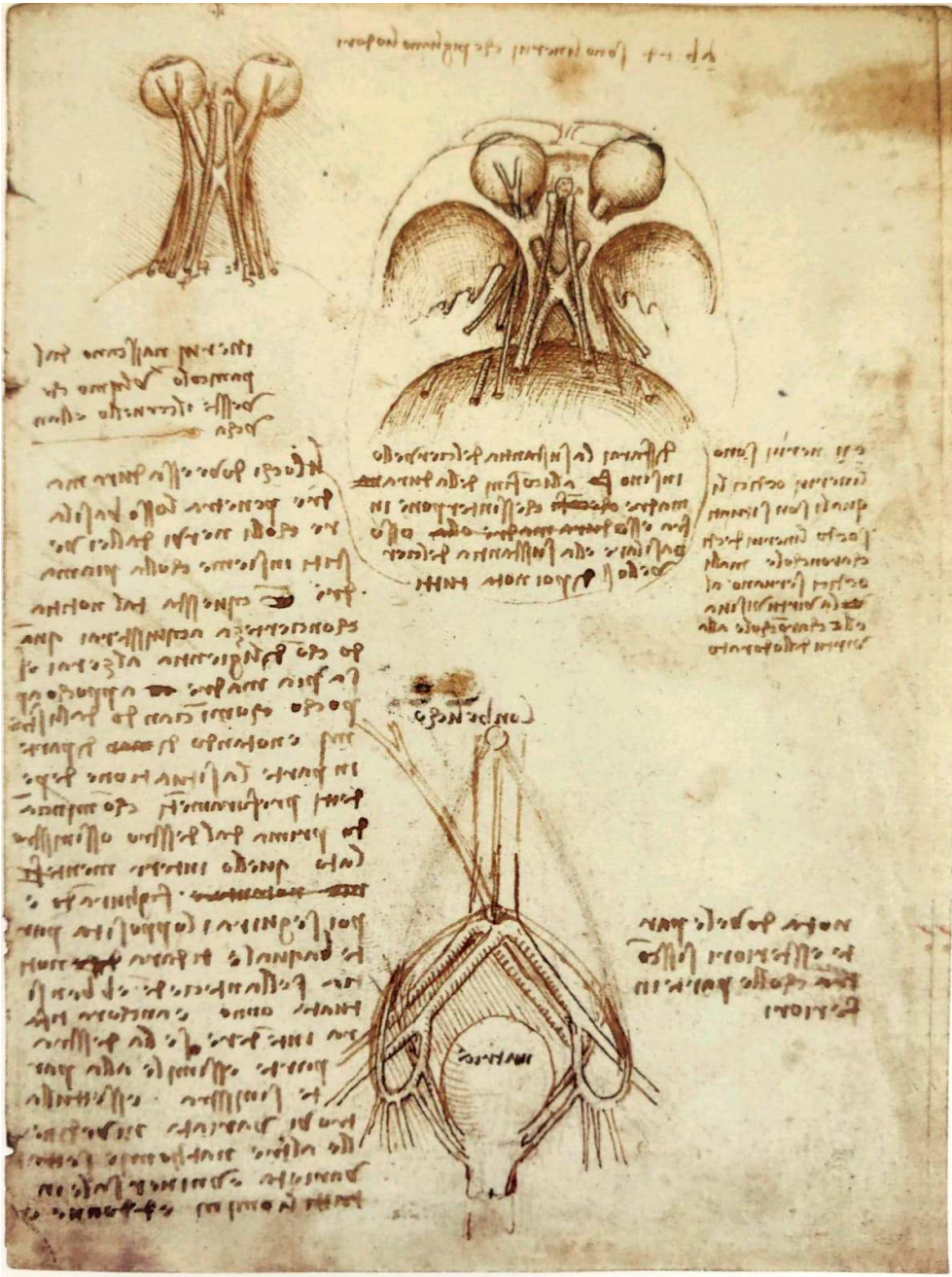
See also:

Sharma, K. K. (2006) *Optics : Principles and Applications*. Amsterdam: Academic Press. Available at: http://search.ebscohost.com.arts.idm.oclc.org/login.aspx?direct=true&db=nlebk&AN=173501&site=ehost-live&scope=site (Accessed: 6 May 2020).

Maund, B. (2003) *Perception.* Chesham, Bucks: Routledge (Central Problems of Philosophy). Available at: http://search.ebscohost.com.arts.idm.oclc.org/login.aspx?direct=true&db=nlebk&AN=929393&site=ehost-live&scope=site (Accessed: 6 May 2020).

Harris, E. E. (2013) *Hypothesis and Perception : The Roots of Scientific Method.* Oxfordshire, England: Routledge (Muirhead Library of Philosophy). Available at: http://search.ebscohost.com.arts.idm.oclc.org/login.aspx?direct=true&db=nlebk&AN=732092&site=ehost-live&scope=site (Accessed: 6 May 2020).

Zakia, R. D. (2013) *Perception and Imaging : Photography--A Way of Seeing*. Burlington, MA: Focal Press. Available at: http://search.ebscohost.com.arts.idm.oclc.org/login.aspx?direct=true&db=nlebk&AN=536576&site=ehost-live&scope=site (Accessed: 6 May 2020).

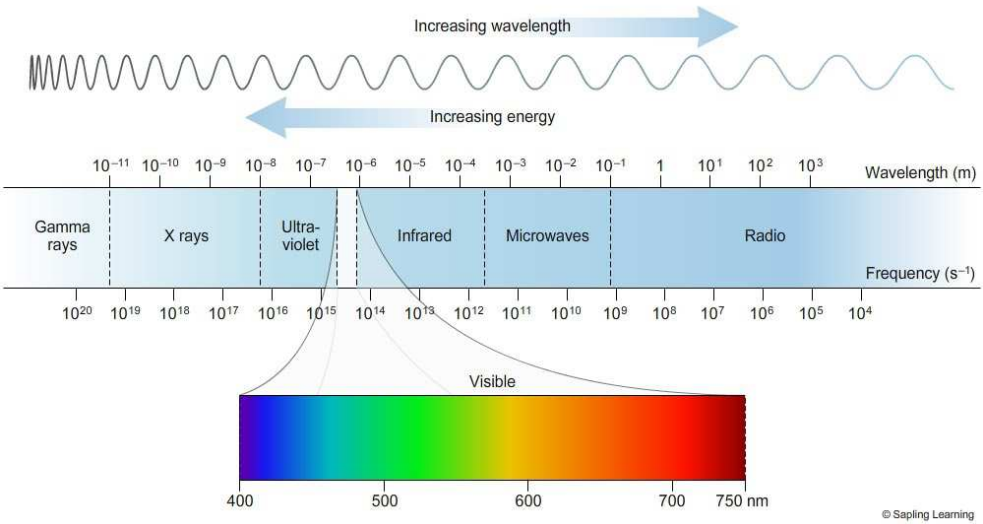


Leonardo Da Vinci, *The 'Optic chiasm' and the cranial nerves*, ca. 1506-08

# 2.1.2 Light refraction and dispersion

Light = electromagnetic (EM) radiation within EM spectrum that can be perceived by the human eye.
Visible light = 400-700 nanometers (nm) wavelength.
Properties of light = intensity, propagation direction, frequency (wavelength), and polarisation.

imagine.gsfc.nasa.gov/science
"The electromagnetic (EM) spectrum is the range of all types of EM radiation. Radiation is energy that travels and spreads out as it goes – the visible light that comes from a lamp in your house and the radio waves that come from a radio station are two types of electromagnetic radiation. The other types of EM radiation that make up the electromagnetic spectrum are microwaves, infrared light, ultraviolet light, X-rays and gamma-rays."




*The Dark Side of the Moon* by Pink Floyd album art (detail). Label: Harvest / Capitol, Graphic artist(s): Storm Thorgerson & George Hardie.

# Rainbows and prisms

In a vacuum, light always travels at the same speed. However, when it travels through different mediums, such as air, glass or water, the density of the medium will determine the speed at which the light travels through. This difference in speed explains the phenomenon of light refraction and/or dispersion (such as the famous Pink Floyd *The Dark Side of the Moon* album cover). A ray of white light travels through the air and hits a prism, through which it gets refracted, coming out of the other side of the prism as a rainbow.

https://courses.lumenlearning.com/physics/chapter/25-5-dispersion-the-rainbow-and-prisms/

"Everyone enjoys the spectacle of a rainbow glimmering against a dark stormy sky. How does sunlight falling on clear drops of rain get broken into the rainbow of colors we see? The same process causes white light to be broken into colors by a clear glass prism or a diamond. [...]

We see about six colors in a rainbow—red, orange, yellow, green, blue, and violet; sometimes indigo is listed, too. Those colors are associated with different wavelengths of light. When our eye receives pure-wavelength light, we tend to see only one of the six colors, depending on wavelength [...]. The thousands of other hues we can sense in other situations are our eye's response to various mixtures of wavelengths. White light, in particular, is a fairly uniform mixture of all visible wavelengths. Sunlight, considered to be white, actually appears to be a bit yellow because of its mixture of wavelengths, but it does contain all visible wavelengths. The sequence of colors in rainbows is the same sequence as the colors plotted versus wavelength in [chart on opposite page]. What this implies is that white light is spread out according to wavelength in a rainbow. Dispersion is defined as the spreading of white light into its full spectrum of wavelengths. More technically, dispersion occurs whenever there is a process that changes the direction of light in a manner that depends on wavelength. Dispersion, as a general phenomenon, can occur for any type of wave and always involves wavelength-dependent processes.

Refraction is responsible for dispersion in rainbows and many other situations. The angle of refraction depends on the index of refraction [...]. We know that the index of refraction n depends on the medium. But for a given medium, n also depends on wavelength. (See Table 1.) Note that, for a given medium, n increases as wavelength decreases and is greatest for violet light. Thus violet light is bent more than red light, as shown for a prism in Figure 3b, and the light is dispersed into the same sequence of wavelengths [...].

**Table 1. Index of Refraction *n* in Selected Media at Various Wavelengths**

| Medium | Red (660 nm) | Orange (610 nm) | Yellow (580 nm) | Green (550 nm) | Blue (470 nm) | Violet (410 nm) |
|---|---|---|---|---|---|---|
| Water | 1.331 | 1.332 | 1.333 | 1.335 | 1.338 | 1.342 |
| Diamond | 2.410 | 2.415 | 2.417 | 2.426 | 2.444 | 2.458 |
| Glass, crown | 1.512 | 1.514 | 1.518 | 1.519 | 1.524 | 1.530 |
| Glass, flint | 1.662 | 1.665 | 1.667 | 1.674 | 1.684 | 1.698 |
| Polystyrene | 1.488 | 1.490 | 1.492 | 1.493 | 1.499 | 1.506 |
| Quartz, fused | 1.455 | 1.456 | 1.458 | 1.459 | 1.462 | 1.468 |

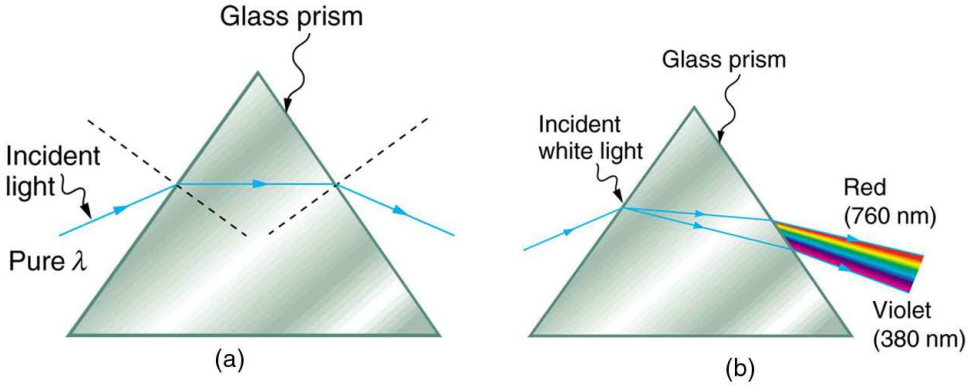



Figure 3. (a) A pure wavelength of light falls onto a prism and is refracted at both surfaces. (b) White light is dispersed by the prism (shown exaggerated). Since the index of refraction varies with wavelength, the angles of refraction vary with wavelength. A sequence of red to violet is produced, because the index of refraction increases steadily with decreasing wavelength.

Rainbows are produced by a combination of refraction and reflection. You may have noticed that you see a rainbow only when you look away from the sun. Light enters a drop of water and is reflected from the back of the drop, as shown in Figure 4. The light is refracted both as it enters and as it leaves the drop. Since the index of refraction of water varies with wavelength, the light is dispersed, and a rainbow is observed, as shown in Figure 5a. (There is no dispersion caused by reflection at the back surface, since the law of reflection does not depend on wavelength.) The actual rainbow of colors seen by an observer depends on the myriad of rays being refracted and reflected toward the observer's eyes from numerous drops of water. The effect is most spectacular when the background is dark, as in stormy weather, but can also be observed in waterfalls and lawn sprinklers. The arc of a rainbow comes from the need to be looking at a specific angle relative to the direction of the sun, as illustrated in Figure 5b. (If there are two reflections of light within the water drop, another "secondary" rainbow is produced. This rare event produces an arc that lies above the primary rainbow arc—see Figure 5c.)

Dispersion may produce beautiful rainbows, but it can cause problems in optical systems. White light used to transmit messages in a fiber is dispersed, spreading out in time and eventually overlapping with other messages. Since a laser produces a nearly pure wavelength, its light experiences little dispersion, an advantage over white light for transmission of information. In contrast, dispersion of electromagnetic waves coming to us from outer space can be used to determine the amount of matter they pass through. As with many phenomena, dispersion can be useful or a nuisance, depending on the situation and our human goals."

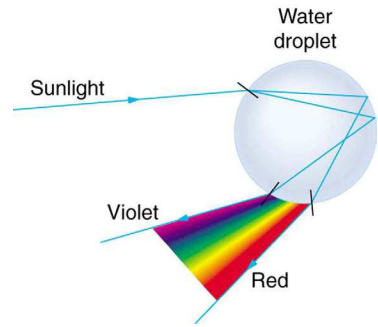



Figure 4. Part of the light falling on this water drop enters and is reflected from the back of the drop. This light is refracted and dispersed both as it enters and as it leaves the drop.

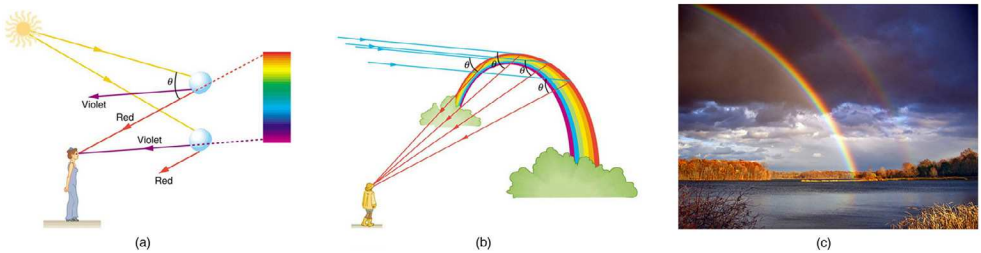
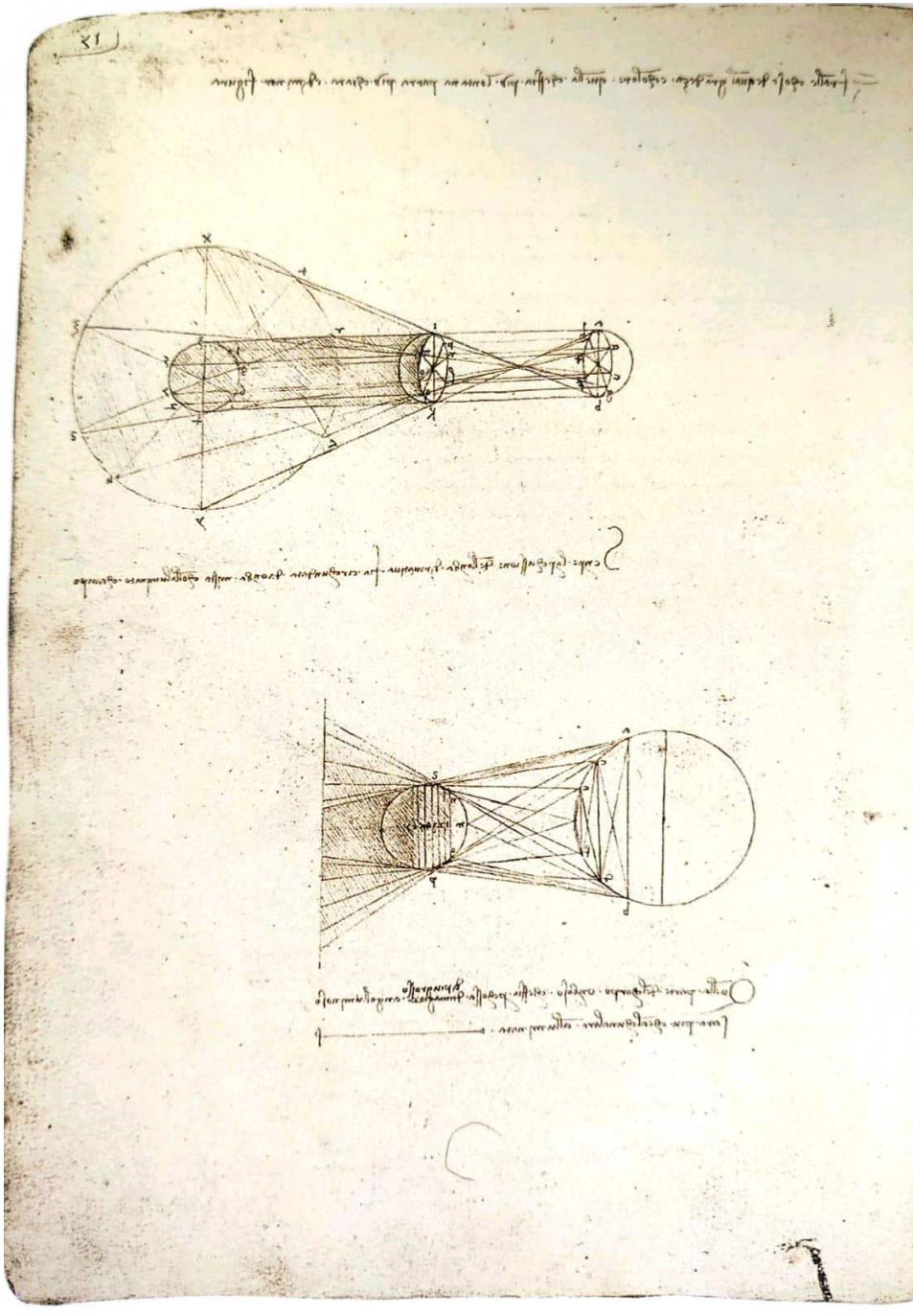



Figure 5. (a) Different colors emerge in different directions, and so you must look at different locations to see the various colors of a rainbow. (b) The arc of a rainbow results from the fact that a line between the observer and any point on the arc must make the correct angle with the parallel rays of sunlight to receive the refracted rays. (c) Double rainbow. (credit: Nicholas, Wikimedia Commons)



Leonardo Da Vinci, *On the intensity of light and shade dependent on the angle of incoming rays of light and shade*, 1490/91

Light refraction and dispersion installation at Palais de la Decouverte, Paris, France. 2019.

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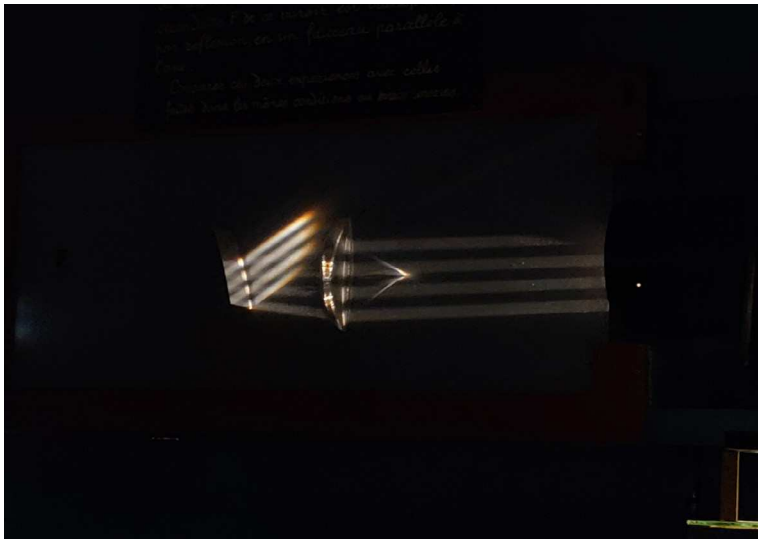
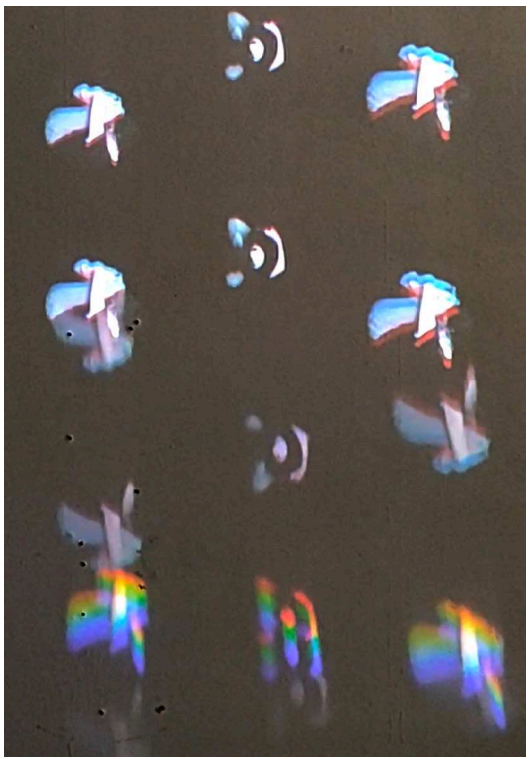
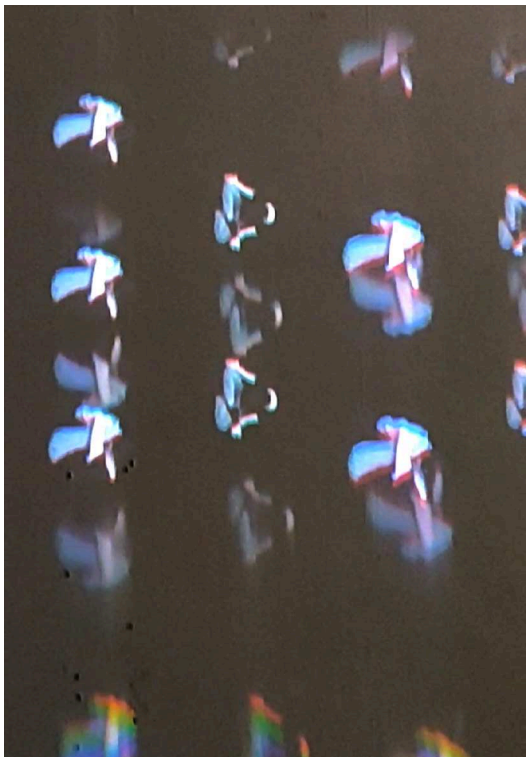
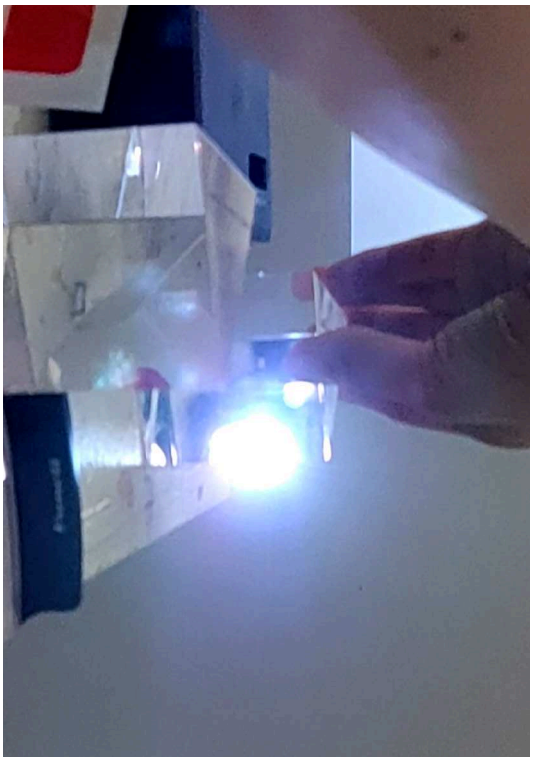
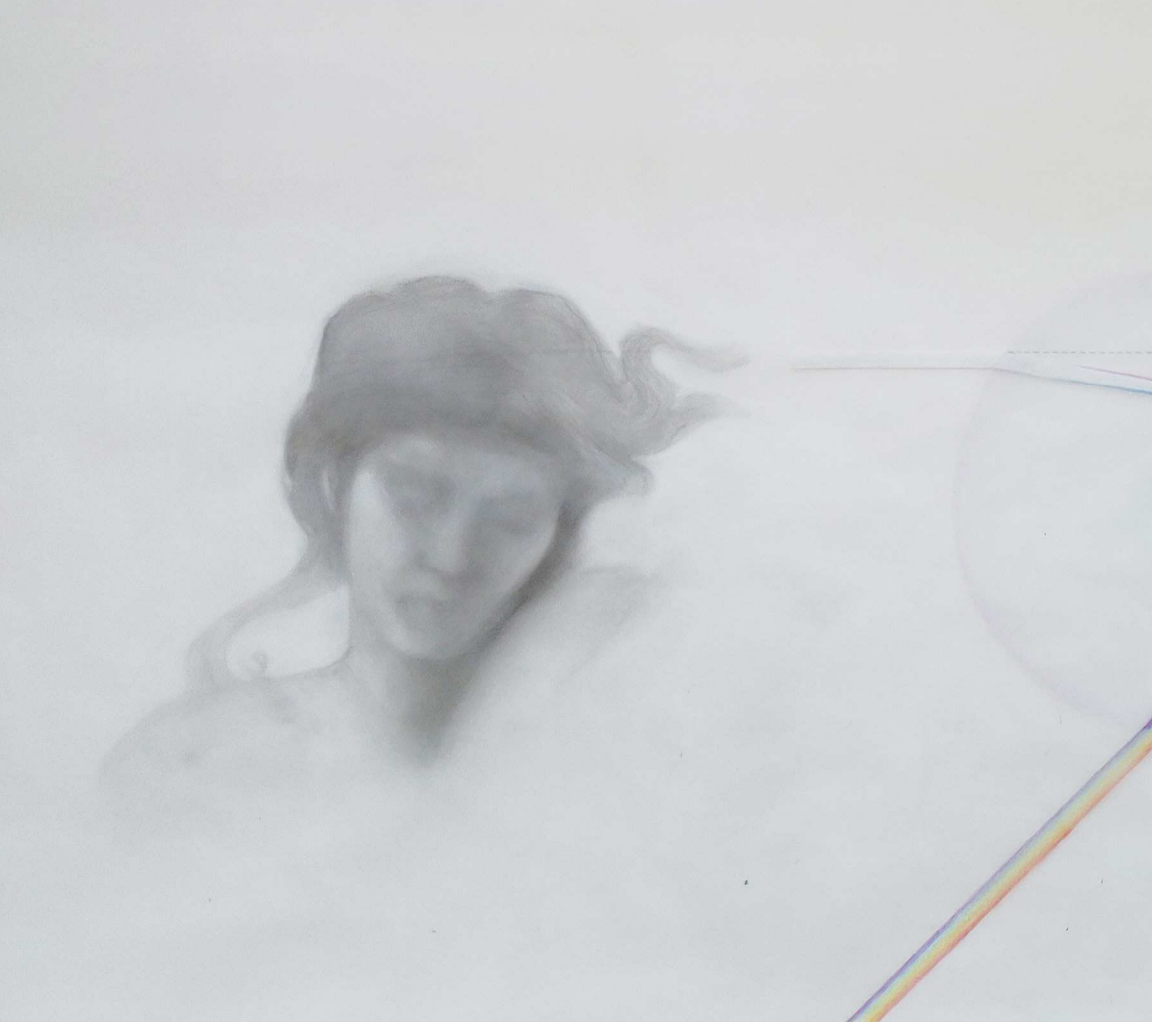
Light refraction and dispersion installation at *Palais de la Decouverte*, Paris, France. 2019.

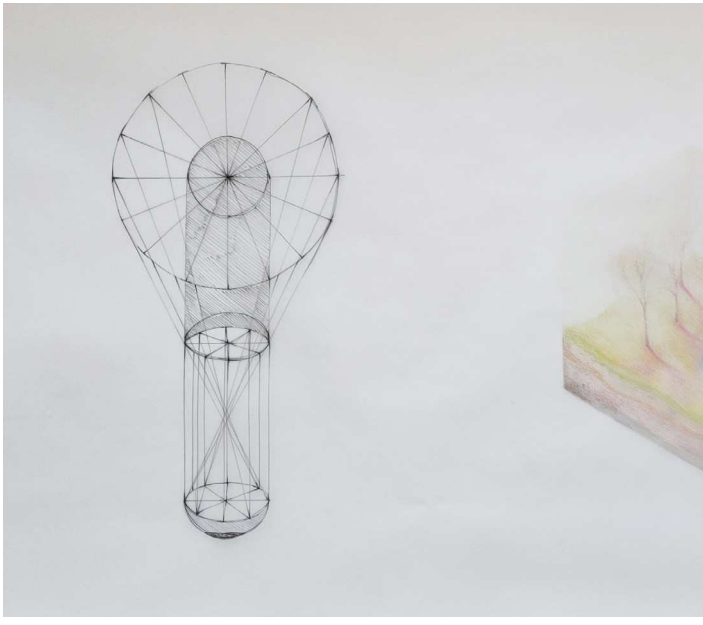


Hanne Peeraer, *initial experiments with light refraction/dispersion and stereography*, 2019-2020.

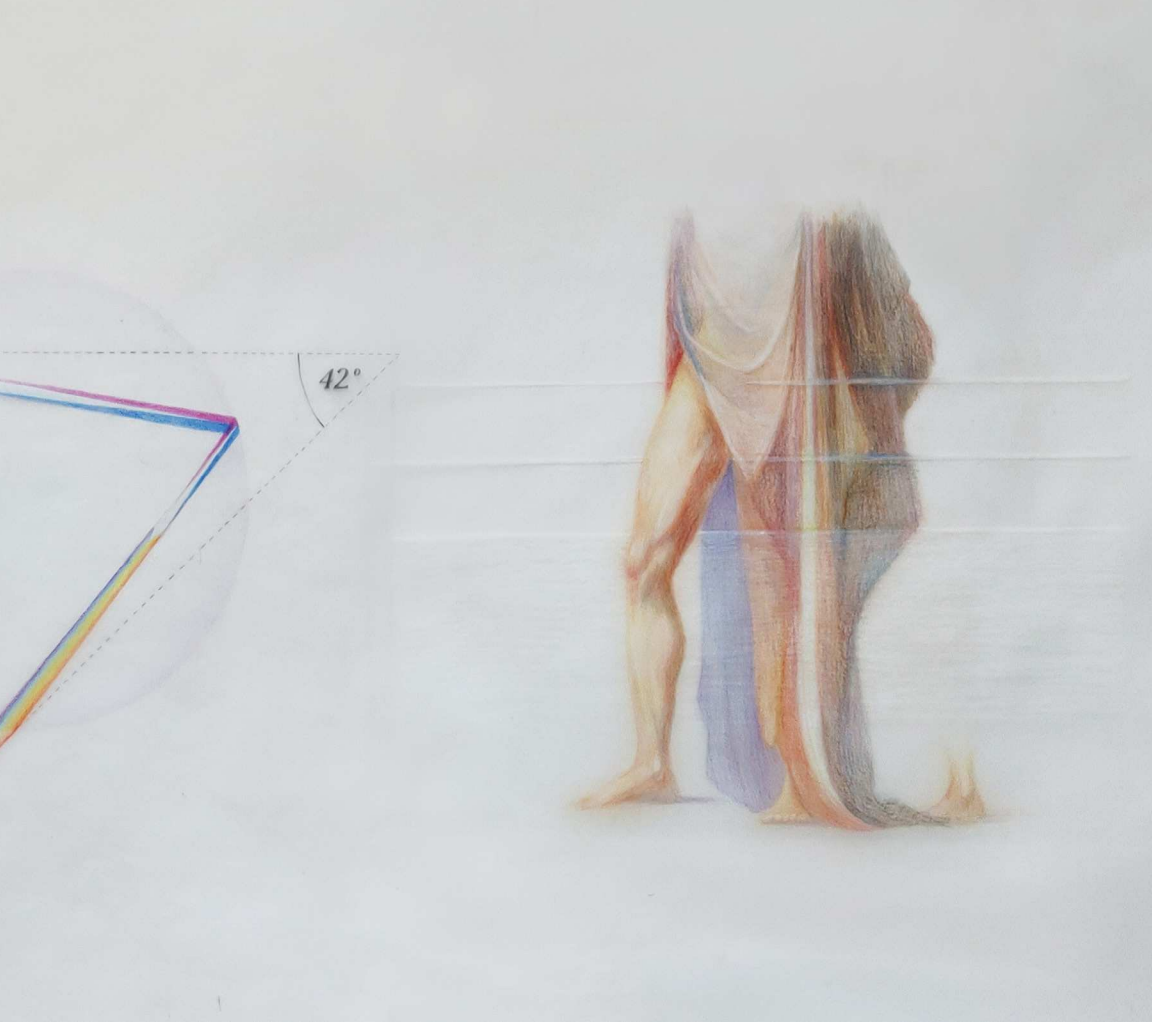




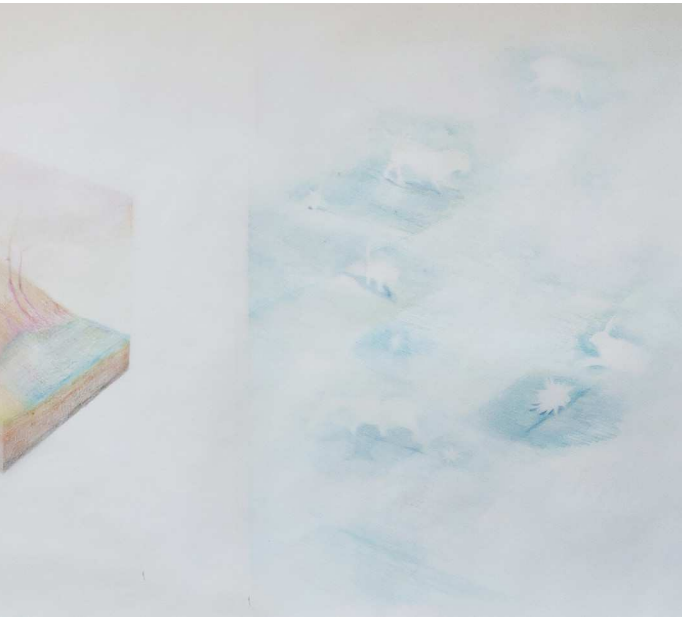
Hanne Peeraer, *initial experiments with light refraction/dispersion and stereography*, 2019-2020.





Hanne Peeraer, *Drawings*, 2020


42°



A very short introduction to

# Holography

from Sharma, K. K. (2006) in *Optics : Principles and Applications*.

[...] A sharp and bright image of a 2D object can be recorded on a photographic film kept in the conjugate plane of an aberration-free lens. Imaging 3D objects poses problems. Ideally, the plane of the film can be conjugate to only one transverse plane of a 3D object. Rays from a given point on this plane reach the conjugate point in the plane of the film in phase (recall Fermat's principle). This holds for all points on this object plane, irrespective of the object illumination being coherent or incoherent. The image of this plane is therefore sharp and bright. Rays emanating from a point lying on any plane other than object plane form a defocused image of that point in the plane of the film. The optical path lengths of these rays are unequal. The phase information of a 3D object contained in the optical path lengths of the rays arriving from different planes of the object is therefore lost, and only the intensity distribution of the 3D object gets recorded in the film. This results in the loss of the depth perception in an ordinary photograph of a 3D object. **Unlike the film, the eyes see a 3D object as a 3D object through parallax.**

Nevertheless, **it is possible to record the phase and amplitude distributions of a coherently illuminated 3D object in a single plane if light diffracted by the 3D object is made to interfere with a coherent reference wave in that plane.** This is exactly what is done in the lens-less imaging process called holography, invented by Gabor in 1948. Holography, meaning 'whole writing' in Greek, reproduces the amplitude and phase distributions of a coherently illuminated 3D object in its image. In the absence of a lens, there is no unique pair of conjugate planes in this imaging scheme. The depth perception is therefore not lost in holographic imaging. Holography is a two-step proces. In the first step, called ***hologram recording***, the amplitude and phase distributions of the object field are recorded on a high-contrast photographic film in the form of a **stable interference pattern produced by the object wave and a coherent reference wave**. The object wave is the light diffracted by the object when illuminated coherently and the reference wave is usually a quasi-monochromatic plane or spherical wave. The entire holographic apparatus is mounted on a vibration-free table to secure a stable interference pattern (Fig. 13.1). No optical component in a holographic setup should move with respect to any other component by more than a fraction of the wavelength of light.

The developed film (negative or positive) is called the hologoram. **It does not carry the image of the object, but carries a permanent signature of the object in the form of an intricate interference pattern**. A hologram can be envisioned as a diffraction grating with a highly complex transmission profile. In the second step of holographic imaging, called ***wavefront reconstruction***, the **hologram when illuminated with the reconstruction wave**, preferably the same as the reference wave (or its spatial phase conjugate wave) used in the first step, **reconstructs the original wavefront diffracted by the object during the recording of the hologram.** Actually, the hologram generates not only the original diverging object wavefront, but also its spatial complex conjugate. From the term *original*, it is implied that this reconstructed wavefront resembles in all respects the diverging wavefront originating from the object during the recording of the hologram. **This wavefront therefore gives rise to a virtual image at the original position of the object if the geometries of the recording and reconstruction processes are identical, except that the object is absent during the reconstruction**. The reconstructed conjugate wavefront is converging and forms a real image of the object.

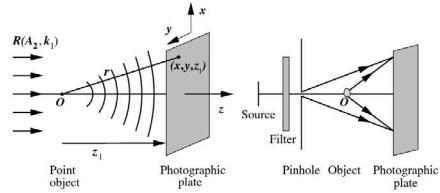



*Fig 13.2: hologram recording*

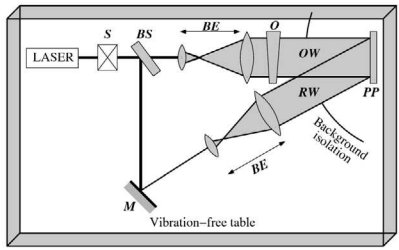
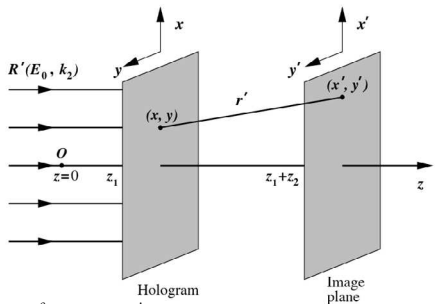



Fig. 13.1: Typical setup for recording an off-axis hologram; *S* shutter, *BS* beam splitter, *BE* beam expander, *O* object, *OW* object wave, *M* mirror, *RW* reference wave, *PP* photographic plate.

*Hologram Recording*

For simplicity, we first consider the recording of a hologram of a point object. An extended object can be regarded as a collection of point objects. Let the point object O be situated on the axis of the photographic plate at a distance z 1 from it (Fig. 13.2a).

The reference wave is a monochromatic plane wave[...], incident normally on the photographic plate. The spherical wave emitted by the point object interferes with the reference wave everywhere, in particular, in the plane of the photographic plate. It is obvious but may still be pointed out that unlike in the image plane of a lens, light from the point object (and also from an extended object) in holography reaches every point of the photographic plate. Consequently, **every portion of the hologram acquires complete information on the amplitude and phase distributions of the object field in the form of an interference pattern.**




*2: wavefront reconstruction*

This seems to introduce a great deal of redundancy in holographic imaging, but the images reconstructed from a hologram of large size are brighter and possess higher resolution.

*Wavefront Reconstruction*

To reconstruct the object wavefront, the hologram recorded in Fig. 13.2a is trans-illuminated with a plane coherent wave of amplitude E=0 and wave number [...] which may be different from the wave number of the wave used in making the hologram (Fig. 13.3). The location of the point object during the recording of the hologram is also shown (point O in the plane z = 0) for reference.

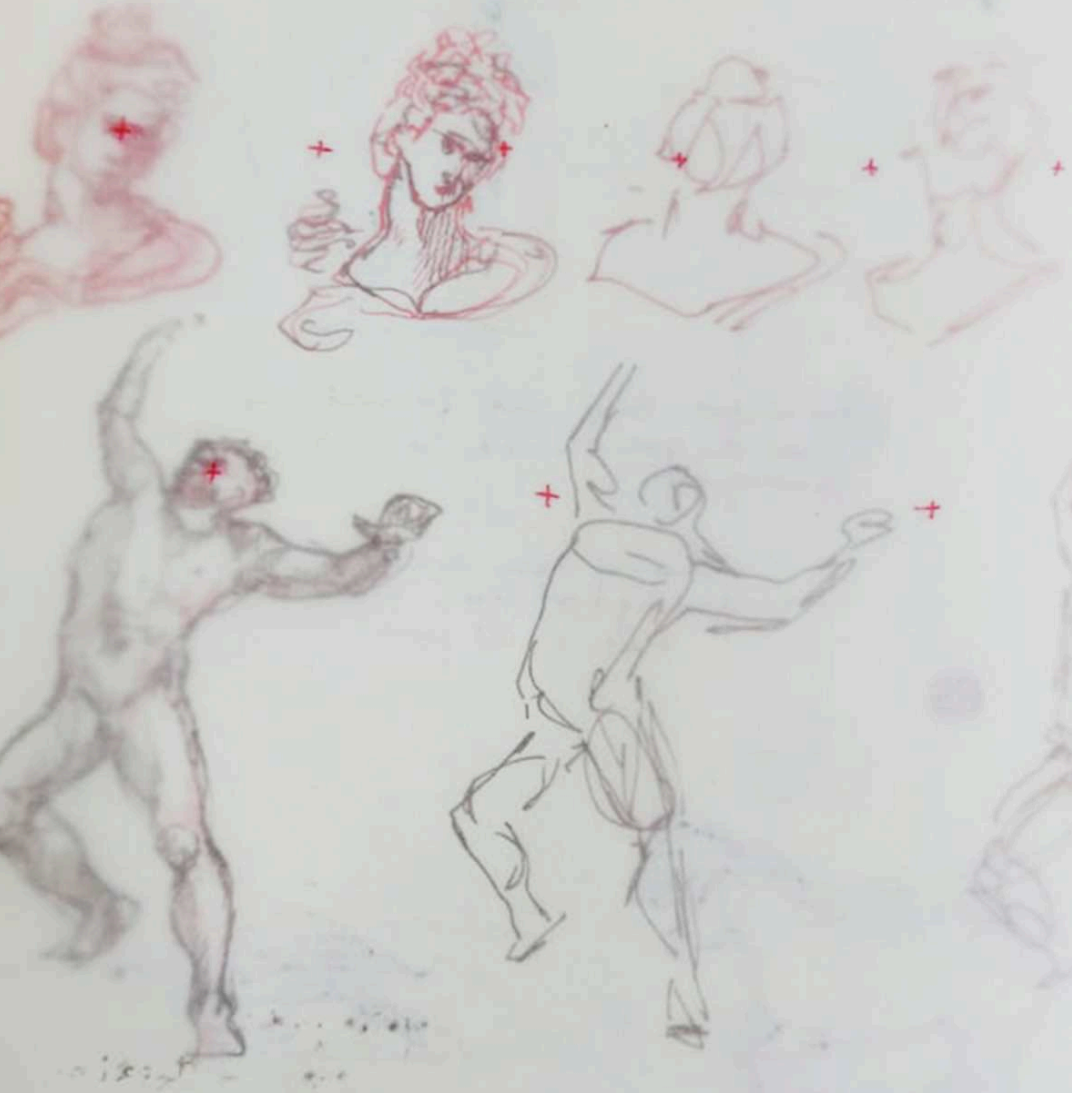
*[for more in-depth explanation on both steps, including full equations, please refer to book.]*

See also:
http://holocenter.org/what/what-is-a-hologram
https://www.sciencedirect.com/topics/physics-and-astronomy/holography

Holography is a complicated science with many different applications and explorations. The method that was very briefly described here refers to the most basic application of holographic science ("on-axis holography") which, even though it is not really useful for real-life holograms, does provide a basis of understanding the general underlying mechanisms.
Another method of creating something that looks like a hologram, is to use creative variations on the so-called Pepper's Ghost illusion, using light refraction rather than wavelength manipulation and photographic plates (see later chapter).

the restitution of grace

- you need to cut your [illegible]
- the curious child [illegible]



as somehow I am gets transformed into this body → the fall from grace
↳ ignorance

the fall from grace

# Art & Physics

## 2.2.1 Zoetrope

Zoetrope = from Greek zōē (life) tropos (-turning)

Below definition(s) from www.zoetrope.org
Zoetrope is an an animated vintage toy that was originally developed in 1830s. [...] A zoetrope is a device that produces the illusion of motion from a rapid succession of static pictures.
The zoetrope consists of a cylinder with slits cut vertically in the sides. On the inner surface of the cylinder is a band with images from a set of sequenced pictures. As the cylinder spins, the user looks through the slits at the pictures across. The scanning of the slits keeps the pictures from simply blurring together, and the user sees a rapid succession of images, producing the illusion of motion.

# Eric Dyer: *Copenhagen Cycles 2005-2014*

at Ronald Felman Fine Arts, 06.09-11.10.2014

"[...]Through his own elaborate process, Dyer reinvents the zoetrope to explore a visual language of loops and spirals that transcends real-time video documentation. *Copenhagen Cycles* is Dyer's collaged portrait of Copenhagen in which transformed but recognizable images, based on that city, swirl across screens to dizzying effect. The body of work was initiated in 2006 when Dyer spent eight months videotaping and physically connecting to the city on bicycle. Working intuitively to exploit the seemingly never-ending expressive qualities of the process, Dyer selected sequential stills from the footage to structure and construct the zoetropes."

from Ronald Feldman press release

Eric Dyer, *City Bikes*, 2005

Dyer originally showed Copenhagen Cycles as a film, which was included in more than four dozen festivals. He then built the zoetrope-sculptures, reshot them in high-definition, and configured a two-part installation for the Feldman Gallery in 2014.

In a darkened room, the oversized looped projections, running from one to four minutes each, immerse the viewer in a fantasy world where gravity is suspended, scale is upended, and perspective dissolves. Buildings, wind turbines, pigeons, swans, boats and buses, wheels, flowers, the sea, and cobblestones pulsate with kinetic motion. A solitary cyclist wearing a Viking helmet appears in several videos as a unifying thread – the artist who travels through a moving pop-up book version of the city. Within all the beautiful and strange fast moving images, slowly the history of a people and place is unexpectedly revealed.

In a second room, Dyer's hand-crafted zoetropes, circular spinning sculptures of layered rings of tiny cutouts, can be activated and viewed through special shutter glasses, an astonishing difference in scale. Also on exhibit are photographs of zoetrope details that capture the stop action moment of objects in motion – a counterpoint to Dyer's animations, which unleash the beauty of movement in still objects.

opposite: W.E. Lincoln's *U.S. Patent No. 64,117* of Apr. 23, 1867;
first design of the zoetrope as we know it today

Eric Dyer, *Polser Preparations*, 2014

W. E. LINCOLN.

TOY.

No. 64,117. Patented Apr. 23, 1867.

Fig. 3.

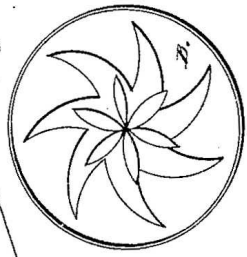



Fig. 2.

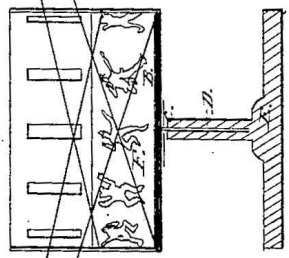



Fig. 4.

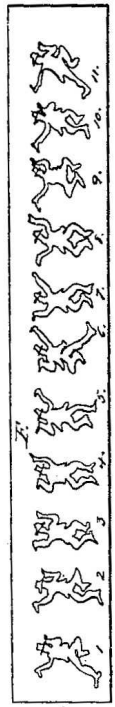
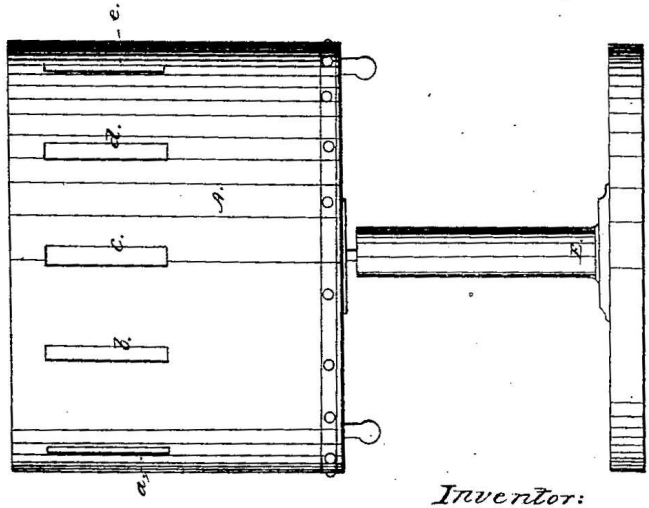



Fig. 7.




Witnesses:

Edward A. Hyde.

James P. Strong.

Inventor:

Wm. E. Lincoln

by J. B. Jackson

attorney

## Reflections (écriture automatique: connecting Eric Dyer to Markus Vater)

Eric Dyer's Zoetropes plus the video he made from it are the only ones that actually show multiple sides of the reality all art aims to present. Questions about reality, what is it? Split up in to physical – empirical vs nonph – that which exists only in our minds. By introducing shapes colours movement, twisting in and out of itself and repeating in an infinite motion/process. Ideas of dimension, reminiscent of outer space. Mechanisms of our solar system & how space and time function together but also the reflection / smaller scale version of that that we experience on a day to day basis while moving through our surroundings and interacting with them; picking up impressions and forming them into ideas which are built upon what is already located inside of us.

There is a certain connection between action and thought, between hand and brain (ref. Markus Vater), something that binds mind and body.

Point is – Eric Dyers cycling through Copenhagen in my opinion tries to capture our subjective experience of reality by mingling the two sides; many things happen in front of our eyes, confusing sounds, but recognisable images appear and put thoughts in our brains. Plus. the "zoomed out" feel of the actual Zoetrope in action has many similarities to the never-ending flux in which our brains and bodies but also our solar system functions.

Next, Markus Vater's mobile does just the same; introducing a three dimensional object that moves along with the wind and the motion of the person observing it and walking around it . Quote Vater "what you see is not what you look at". It is not just a single image but is in motion, constantly switching between showing you an image and hiding it as the mobile turns, making you stuck with only the non-physical memory of it and showing you another body. Quote Vater "image is a map to reality. a painting is not an image. the image is what is formed in our minds while seeing the painting. paintings pose as images, they are related to them". This explains – often mistaken – connection between phys. vs non-phys when it comes to images/art in general.

Vater does kind of the opposite [of what? doesn't matter]. He points out what we normally do without forcing us to do anything different but to just underline it and pay extra attention to it, kind of like putting a mirror in front of your face. Ah mirrors! Michelangelo Pistoletto is also a great reference since he uses mirrors to kind of hack our idea of time and space (aka mind and body) and how they interact with each other. Shows you your physical body in the mirror aka what is right now in this moment not past or future, but on the mirror there is also a picture of the past that often shows the character in the middle of a situation that makes you think "what are they doing" and so that is full to the brim with elements of your brain because you start to think in the past or the future or whatever in any case you probably won't start to focus on specific observational details but will start to ask yourself questions.

See also:

A rudimentary tutorial for creating a toy zoetrope:
http://www.reframingphotography.com/content/animating-photographs

A quick look at 3D printing zoetropes:
https://3dprint.com/79516/3d-printed-zoetrope/

Artist Mat Collishaw's *The Centrigufal Soul* (see overleaf):
https://vimeo.com/276774237

My digital research collection:
www.pnnha.net with search term "zoetrope"

An alternative process with similar optical strobe tricks as the zoetrope, Olafur Eliasson's *Big Bang Foutain*, as pictured below:

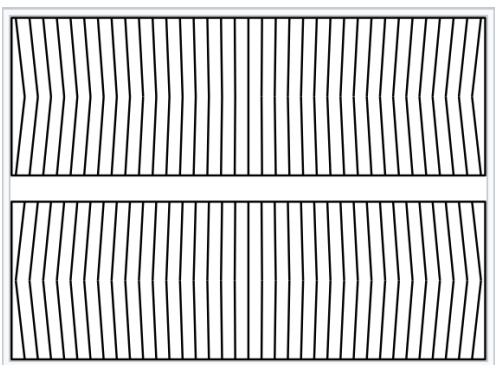
Olafur Eliasson, *Big Bang Fountain*, 2014

Mat Collishaw, *The Centrifugal Soul*, 2017. courtesy of the aritst and Blain|Southern

## 2.2.2 Stereogram

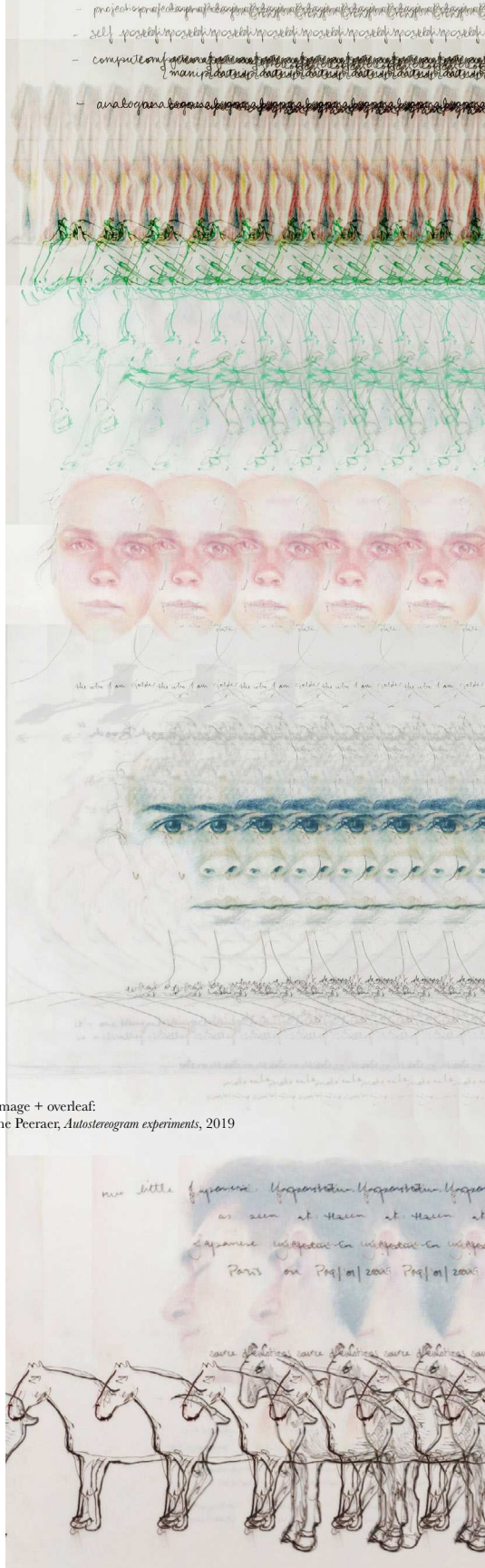
(Auto)Stereo(Glyph)
My reason for being intrigued by stereograms comes from a problem. The problem being: how to extract what makes my translucent sketchbooks interesting, and apply it to a different work. What makes them interesting is interaction, changes over time, immersion. 3D does just that. Plus, it compels you to focus in the way you are supposed to focus on any good work that you want to consider seriously.

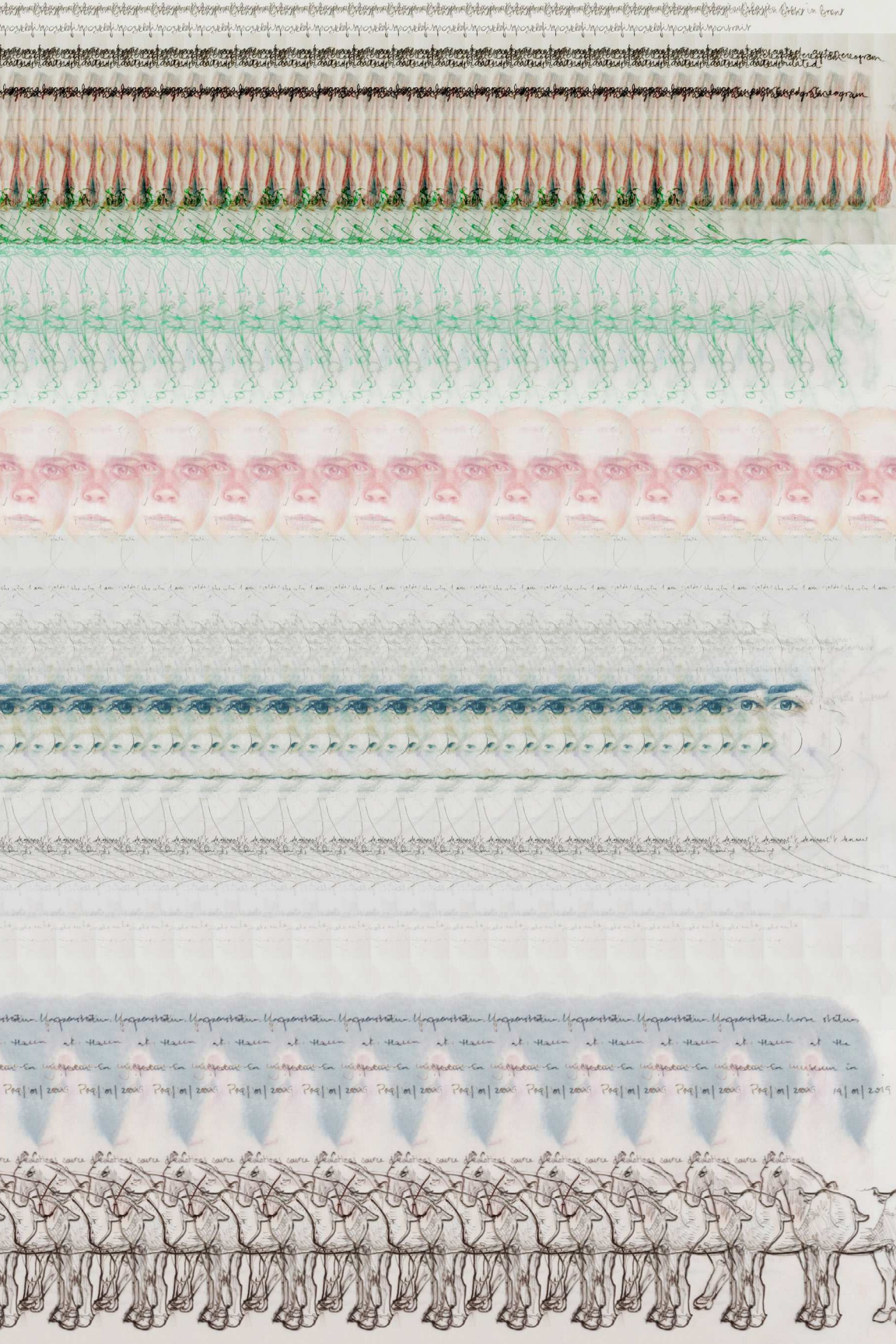
"An autostereogram is a single-image stereogram (SIS), designed to create the visual illusion of a three-dimensional (3D) scene from a two-dimensional image. In order to perceive 3D shapes in these autostereograms, one must overcome the normally automatic coordination between accommodation (focus) and horizontal vergence (angle of one's eyes). The illusion is one of depth perception and involves stereopsis: depth perception arising from the different perspective each eye has of a three-dimensional scene, called binocular parallax.
The simplest type of autostereogram consists of horizontally repeating patterns (often separate images) and is known as a wallpaper autostereogram. When viewed with proper convergence, the repeating patterns appear to float above or below the background.



The top and bottom images produce a dent or projection depending on whether viewed with cross- (⨯) or wall- (⊔) eyed vergence.

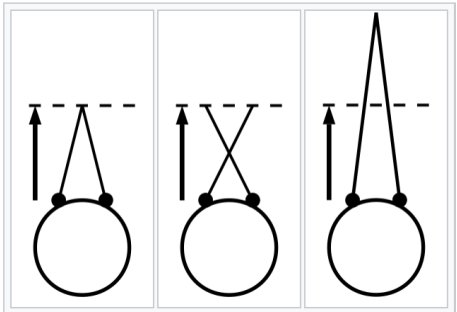
this image + overleaf:
Hanne Peeraer, *Autostereogram experiments*, 2019





The well-known Magic Eye books feature another type of autostereogram called a random dot autostereogram. [...] In this type of autostereogram, every pixel in the image is computed from a pattern strip and a depth map. A hidden 3D scene emerges when the image is viewed with the correct convergence.

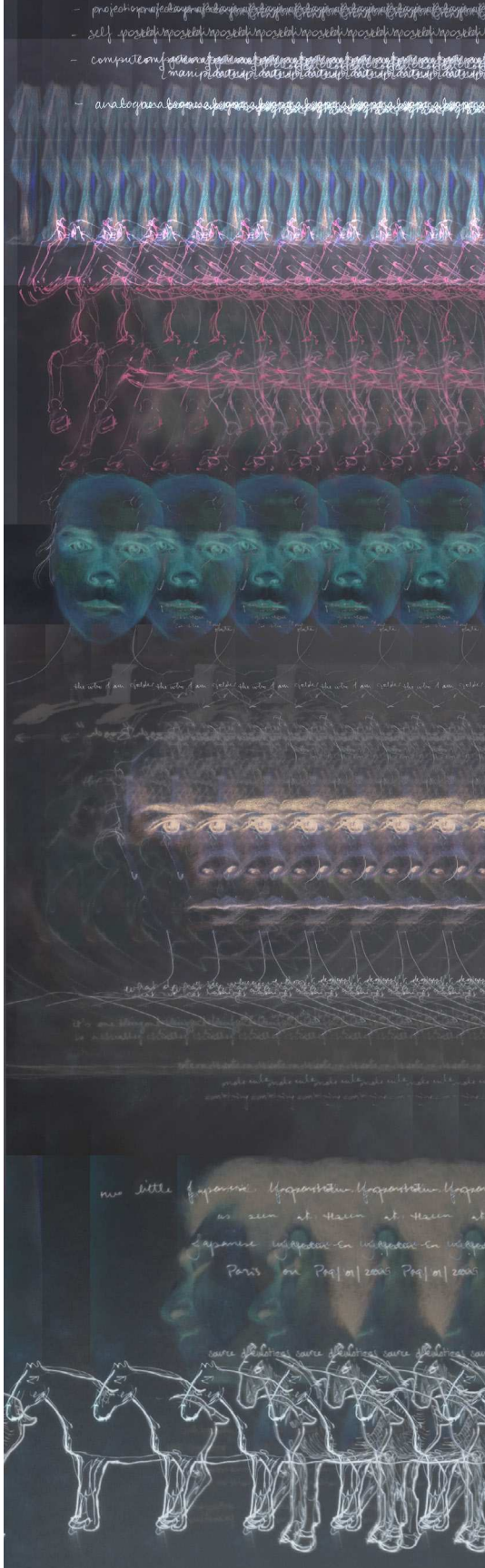
Autostereograms are similar to normal stereograms except they are viewed without a stereoscope. A stereoscope presents 2D images of the same object from slightly different angles to the left eye and the right eye, allowing us to reconstruct the original object via binocular disparity. When viewed with the proper vergence, an autostereogram does the same, the binocular disparity existing in adjacent parts of the repeating 2D patterns.
There are two ways an autostereogram can be viewed: wall-eyed and cross-eyed.[a] Most autostereograms (including those in this article) are designed to be viewed in only one way, which is usually wall-eyed. Wall-eyed viewing requires that the two eyes adopt a relatively parallel angle, while cross-eyed viewing requires a relatively convergent angle. An image designed for wall-eyed viewing if viewed correctly will appear to pop out of the background, while if viewed cross-eyed it will instead appear as a cut-out behind the background and may be difficult to bring entirely into focus.[b]"
straight outta Wikipedia (www.wikipedia.org/wiki/Autostereogram)

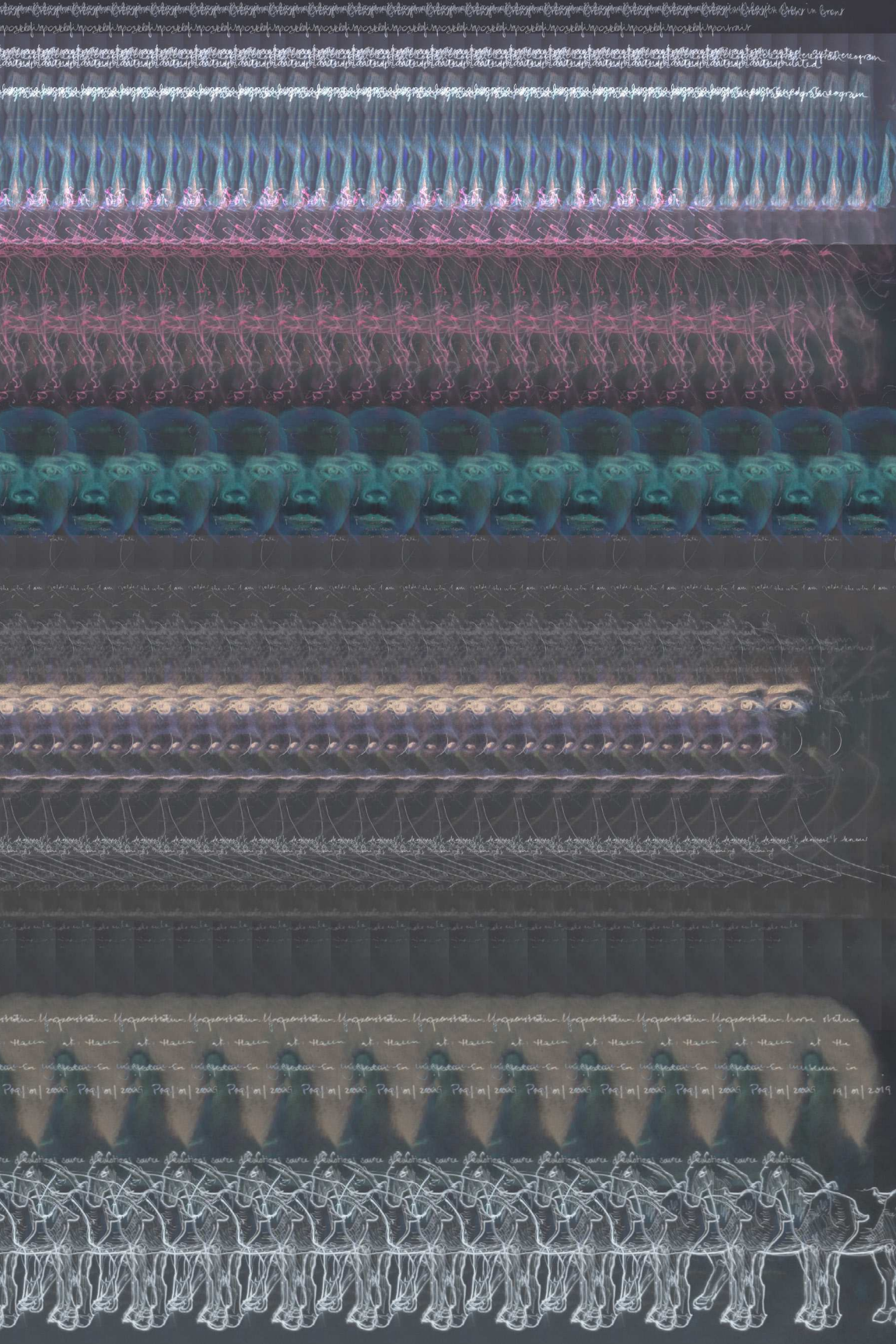


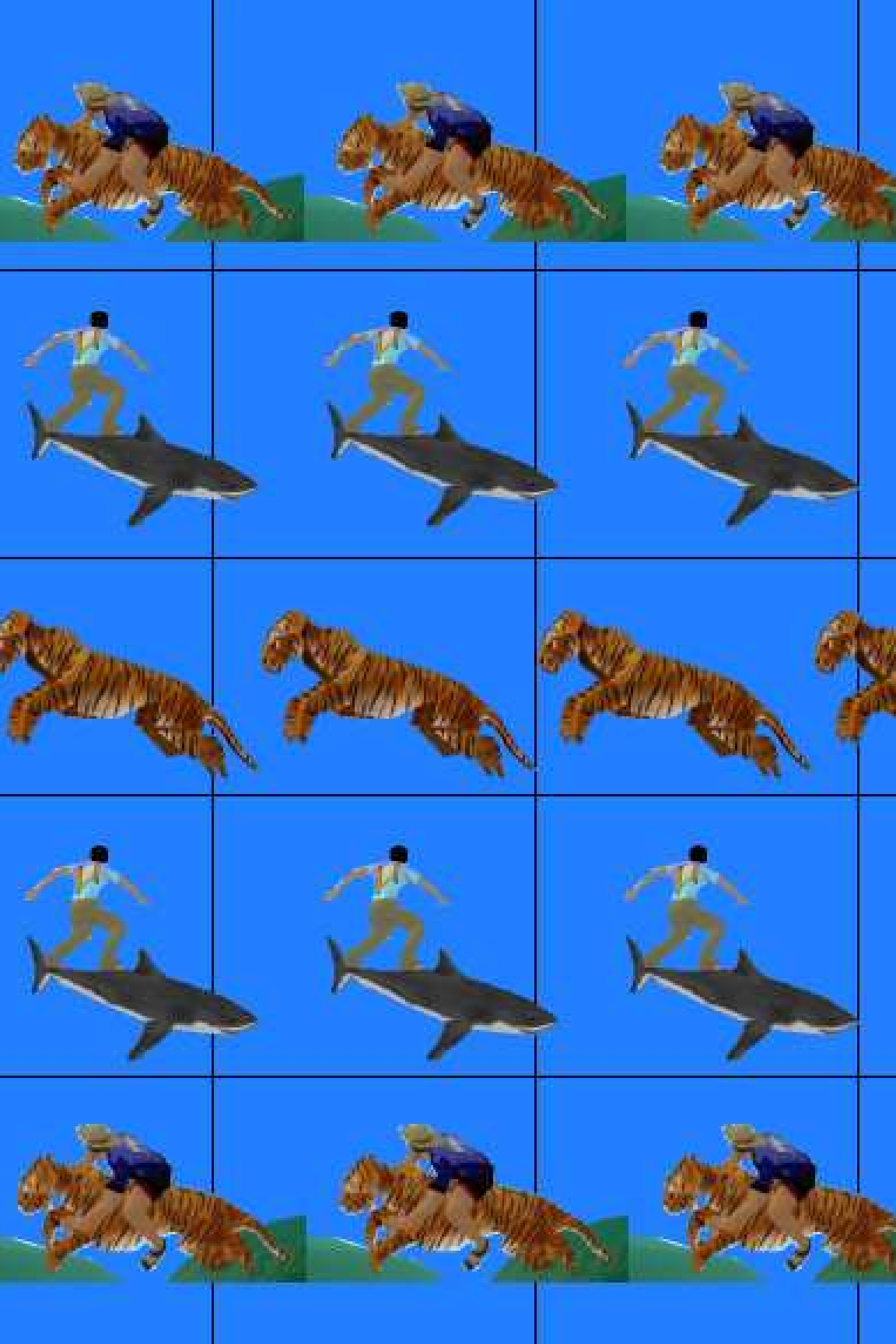
Aligned vergence and accommodation. How one usually views objects.[1]

Cross-eyed vergence (⨯).[1] Arrow indicates accommodation.

Wall-eyed ("parallel") convergence (‖).[1]



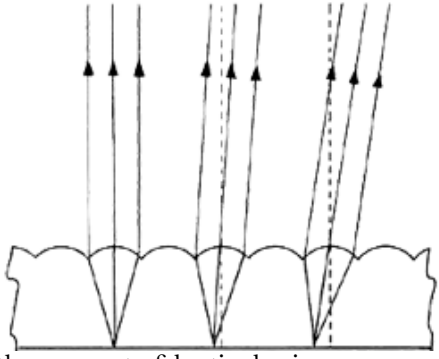




This autostereogram displays patterns on three different planes by repeating the patterns at different spacings.
(Stereogram guide parallel.png) - image found on wikipedia.org/wiki/Autostereogram

## 2.2.3 Lenticular

below text + image from: History of Lenticular at www.lenstarlenticular.com



The history of lenticular is intriguing to those fascinated by its complex, yet simple, concept. It is known as the process or combination of two or more images viewed by a specialised lens material to create the illusion of animation or three-dimension. Earliest forms of this technology is said to have been discovered and applied back in the early 1900's. Through the years, many have explored and tested this original formula with the use of barrier screens and camera lenses. Still today, the concept of lenticular is ever-changing. New technology continues to bring us great advancements in design capabilities, software, printing possibilities, and the lenticular lenses themselves. This lenticular history is further detailed within this section through the research of author David E. Robert.

See also:

How to interlace images for lenticular in Photoshop
https://dplenticular.com/technology/interlacing-images-with-photoshop/

Tutorials on lenticular printing
http://www.vicgi.com/lenticular-tutorials.html

Artist Dan Hays' take on lenticular printing
http://danhays.org/lenticular.html

My digital research collection:
www.pnnha.net with search term "lenticular"

close-up of lenticular sheets used for lenticular printing

Hi Hanne,

Thanks for your question. I made my last bunch of lenticulars 10 years ago! I would have loved to continue, but it's quite a protracted and expensive business. I remember spending at least three solid months making them. At the time, I remember initially finding this website, which gives good overview of the history of lenticular technology: https://www.lenstarlenticular.com/history-of-lenticular

From the outset, I should make it clear that I made the lenticulars from found photographs and videos from the Internet - indeed, the same or similar images to what I was painting. My work in lenticulars and painting informed each other, and both were entirely dependent on manipulating images in Photoshop.

The process is very technical (please find attached a copy of emails I sent to a print technician in Falmouth Art College, who asked me about how to do it). It's been so long, I'd have to relearn quite a few things which I discovered through trial and error. This document will save me going over a lot of details.

The process with lenticulars involves interlacing at least two images (for a simple flip animation) up to 24 (for a longer animation or 3D - or both, which was my aim). Lenticular sheets come in different resolutions. I think the lowest available is 20 lpi (lines per inch), meaning that each vertical lens is around 1mm wide. So, under one 1mm strip, up to 24 different sections of images have to lie side by side. Basically, what this points to is that it would be near enough impossible to paint even a simple flip animation.

What you could do is interlace a series of drawn or painted images in Photoshop. For combining two images, this website offers a simple guide: https://www.instructables.com/id/3D-lenticular-printing-using-Photoshop-and-inkjet-/

Of course, you could simply experiment first with stereoscopy - which you already have done.

For more images (and a more convincing and magical illusion) the process would be to scan a series of images and make a short animation of these frames (like an animated Gif). Here you would be able to see how they would work to create a 3D effect. As I say in my previous document, I found that to make a convincing 3D illusion, there can't be too much motion. For a portrait image, for example, think about how each eye only has a very slightly different point of view. Closer to the subject, this difference increases up to a point. But after that, a head would appear to be a spinning blur, rather than looking 3D for the visual cortex (physiological optics in action!).

I'm getting lost in techy stuff, and in order to advise you better I'd need to know more about what you are intending to achieve. I worked from scratch, sourcing lenticular sheets and developing my own technique for interlacing images. Then, as I mention in the document, callibration of the lens to the digital print is a bit of a nightmare (changes in air humidity seemed to throw everything out from one day to the next). What I'm getting at here is that you will have to be prepared for a lot of trial and error and patience. After meeting you, I am sure you have these qualities. But I am concerned that you have so many other ambitious ideas for the degree show.

If I haven't completely put you off, I think it would be most useful for you to visit my studio (near Elephant & Castle) to see some of my lenticulars, look at materials, and fish out some of the old Photoshop files to explain better how it works. It is very technical, yet not rocket science. This would help save you a lot of time figuring stuff out from scratch, and show you what is possible as an artsist not working in laboratory conditions.

Alternatively, you could find a commercial company to do it, but this tends to be very expensive. Yet I think you are keen to know the nuts and bolts of the technology as this is where creative intervention gets most exciting.

Please let me know your thoughts on all this...

Dan

//
Hi Tom,

Good to hear from someone else engaging with DIY lenticulars.

Without seeing how far you've got first hand, it's hard to know exactly what advice I can give. So, please forgive me if I'm telling you stuff you've already worked out.

I'm assuming you know the resolution of your lenticular sheet. This is the most important thing to know at the beginning (you can measure it with a ruler and counting the ridges running a pin across them).

My first lenticular was made by modelling a cage in a 3D program, and making an animation of it as it rotated through 18 frames to give a 3D effect. My first experiments had quite a lot of rotation, but the movement looked excessively blurred. This is the most important thing to think about. Lenticulars have a very limited ability to represent depth, especially with the relative low resolution of lenses appropriate to inkjet printing (I find 40 lpi as high res as I can go – more on this later). (Offset litho can achieve the resolutions that we see in commercial postcards since the 60s – hence an extended 3D effect).

The 3D illusion is limited to about 2cm projecting out or receding depth before things get too blurry (though this has interesting visual connections with photographic depth of field).

Using a 40lpi lens, I make an animated scene in Photoshop, usually by splitting a landscape image into a succession of 'stage flats', then moving these across each other in constant steps, either left or right, between frames. I have made them from short series of video frames circulating an object. In both these cases I find there is a limit to how much movement works, which can only be verified at the printing stage, after interlacing.

On smaller images I use some excellent free online software found here: http://www.conceptjewel.com/lic/index.html

It only works up to around A4, but is great for quickly visualising scenes and generating interlaces. It also includes really useful calibration software (this is an essential part of preparing to print – I think the website explains this quite well if you're unfamiliar). You might need to change the LIC software's code to work with more memory, hence bigger images – it tells you how on the website.
On larger pieces I make my own interlaces in Photoshop – a process that can be automated somewhat using Actions).

Now why is 40lpi the highest resolution lenticular sheet I've found I can work with? With this lens the limit of the number of frames of motion is 18 or less: Under each 1/40 inch lenticule we need 18 sections of different frames, so each interlaced line is 1/720 inch wide. My Epson inkjet printer's top resolution is 2880dpi, meaning that 4 pixels occupy this strip. I think any narrower and information becomes slightly unresolved, especially after calibrating and changing the resolution of the image accordingly.

(I work at 720dpi, although after calibration the image might have to be 718.56dpi to register correctly).
Maybe try working with 12 frames, which can work better with some scenes and save time.

Using an inkjet printer there is one important thing I have found, which makes a substantial difference: print images in landscape mode in page setup. Printers have a more faithful resolution in strips following the mechanical scanning of the print head, so these scans should correspond to the direction of the lenticules.

I can't think of anything else for now, but please throw me more questions if you need to. Most of my knowledge has come out of trial and error, so my main advice is to persevere.

All the best,
Dan

Tom,

I wasn't exactly clear about the working out of what resolution to work at with your images, considering the lpi (lines per inch) of your lenticular sheet and th number of images you want to interlace:

With 40lpi lenticular:
18 images, work at 720dpi (1/40 divided by 18 = 1/720)
12 images, work at 480dpi

With 30lpi lenticular:
24 images, work at 720dpi
18 images, work at 540dpi
12 images, work at 360dpi

With 60lpi lenticular:
12 images, work at 720dpi

I think 12 images is the minimum required for good 3D effects.
Remember, the less movement between each frame, the clearer the effect. It's all about a balance betwee clarity and amount of 3D motion. One is compromised by the other.

Dan

above: Hanne Peeraer, *Lenticular experiment 1*, 2019
right: Hanne Peeraer, *Drawings formatted for lenticular,* 2019

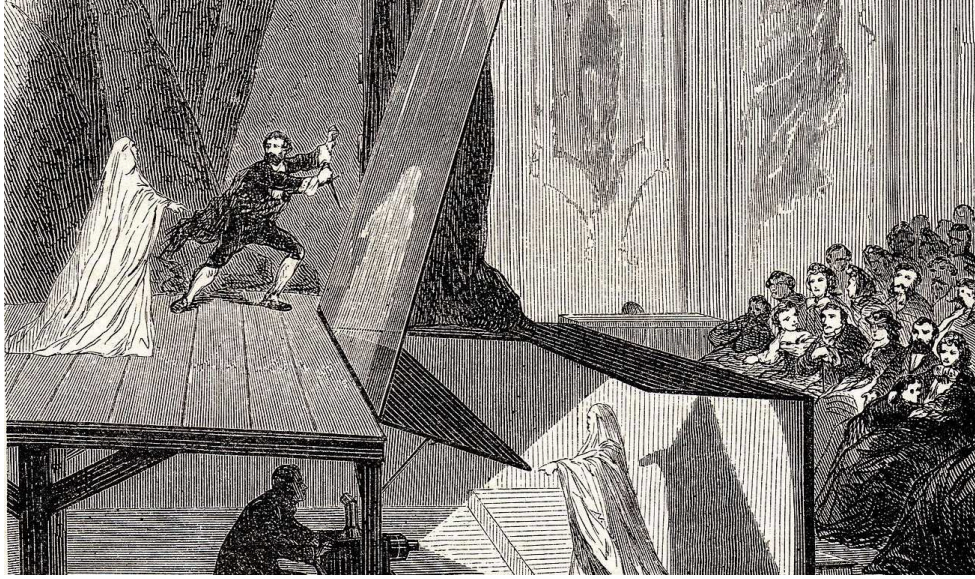
**THE PATENT GHOST**
**[from the Spectator]**

Modern researches in spiritualism have led to one practical result - the discovery of a ghost. Not of an ordinary old-fashioned ghost appearing in the midnight hour to people with a weak digestion, haunting graveyards and old country mansions, and inspiring romance writers into the mischief of three volume novels; but of a well-behaved, steady, regular, and respectable ghost, going through a prescribed round of duties, punctual to a minute - a patent ghost, in fact.

This admirable ghost is the offspring of two fathers, of a learned member of the Society of Civil Engineers, Henry Dircks, Esq., and of Professor Pepper, of the Polytechnic. To Mr.Dircks belongs the honor oíffhaving invented him, or as the disciples of Hegel would express it, evolved him from out of the depths of his own consciousness; and Professor Pepper has the merit of having improved him considerably, fitting him for the intercourse of mundane society, and even educating him for the stage. After having bowed to the public at the Polytechnic institution, he some weeks ago made his debut upon the boards of the Britannia Theatre in a new and highly original drama, entitled, "The Widow and Orphans, - Faith, Hope, and Charity," in which piece he continues to present himself nightly to crowded audiences with the highest imaginable success.

It is a domestic drama, with three murders, one suicide, two conflagrations, four robberies, one virtuous lawyer, 23 angels, and a ghost. There are three heroines in the piece, Faith, Hope, and Charity, the first, an elderly lady, widow of a clergyman, and in straitened circumstances; and the other two, her daughters, pretty and poor, and of course models of perfection, as indicated by the label. The plot turns upon the possession of the lease of a house, which Sir Gilbert Northlaw, a proud and scheming baronet, class representative of the bloated aristocracy, has acquired by fraud from the clerical widow. Before the parchment is restored to the right owner, a number of violent incidents take place, which, although in no perceptible connection with the story, yet seem to charm the audience to an immense degree, as evinced by frequent thundering applause.

A burning house, in particular, gives rise to tremendous excitement in the gallery. The scene shows a woman getting out of the window and walking along the outer ledge to a tree, where a man takes her in his arms, after which the tree, by some magic means, bows to the ground with its human burthen. Various minor accidents, murders and manslaughter, follow, till at longth the lease is stolen by an honest man from the pocket of the wicked baronet. With a fine feeling of virtue, the audience show their appreciation of this act of pickpocketing by three rounds of applause. But the aristocratic villain is not yet defeated, for it turns out that the lease which the honest man has stolen is but a duplicate after all, and that the fiendish nobleman remains in possession of the original. This discovery breaks the heart of Faith, and sets Hope and Charity a-crying so loud that all the bystanders get into convulsions. The question of the lease appears still as undecided as ever when the curtain falls over the terrestrial part of the drama, to open again, after a few minutes' interval, for the spiritual portion. All the souls of all the people



murdered, slain, burned, and bruised in the new and original drama are now carried up to heaven by a regiment of little angels, in flaxen hair and short petticoats. Midway between heaven and earth they make a halt, which allows time for the inspection of the tableau, and the due seasoning of the mind in its contemplation.

It is evident that the impression created upon the audience is of the deepest, preparing all eyes and ears for the still greater things to come. There are now no more discharges of ginger-beer artillery from above and behind, the sucking of oranges and cracking of nuts has entirely ceased, and even the numerous, babies have left off crying. Presently the vast house sinks into obscurity, only a few flickering gas jets being left here and there to create a faint twilight. Once again Sir Gilbert Northlaw steps on the stage, closely followed by a skeleton. The apparition is certainly striking. It gradually and almost imperceptibly evolves itself out of the air, and after various movements vanishes with the rapidity of a flash of lightning. A second time, it comes and goes as before, and immediately after appears a female form, the exact counterpart of Faith, the widow. Closely as the eye may watch the operation of the whole proceeding, it is impossible to detect the source of the fine optical delusion. There the figure certainly stands, walks, and talks, but disappears as instantaneously as if fashioned out of the mere vapor of the air. On the second appearance of widow Faith, or rather widow Faith's ghost, Sir Gilbert Northlaw takes courage, and, rising from his seat, attacks her with the sword. But the sharp steel, aimed at a walking and speaking human figure, meets no resistance but the empty air, and the would-be murderer is mocked by a loud sardonic ha, ha, ha !

This is the crisis of the spectacle. While the baronet is making desperate efforts to grasp the widow, the spectre vanishes in the twinkling of an eye, leaving the echo of a mocking voice resounding from afar. Whatever the means by which this curious scene is effected, it is undoubtedly a most clever and wonderfully striking bit of stage effect. Those in want of a new sensation can do nothing better at the present moment than to pay a visit to the Britannia Theatre and to the "Patent Ghost."

from magazine *The Mercury* published on the 21st of July 1863 in Hobart, Tasmania, Australia, by Davies Brothers Pty Ltd. available on trove.nla.gov.au/newspaper/article/8819348

The creation of the phantasmagorical "optical delusion", called Pepper's Ghost after one of its creators as described in the article, was an invention that started to become more and more common in nineteenth century theatre after it pioneered in this play, an 1862 theatre adaptation of Charles Dickens' *The Haunted Man.*

Using a large plate of clear glass that was invisible to the audience, the creators made use of light refraction and relfection to create the illusion of a seemingly disembodied ghost - fascinating display of early experimentations with mingling optics with art.

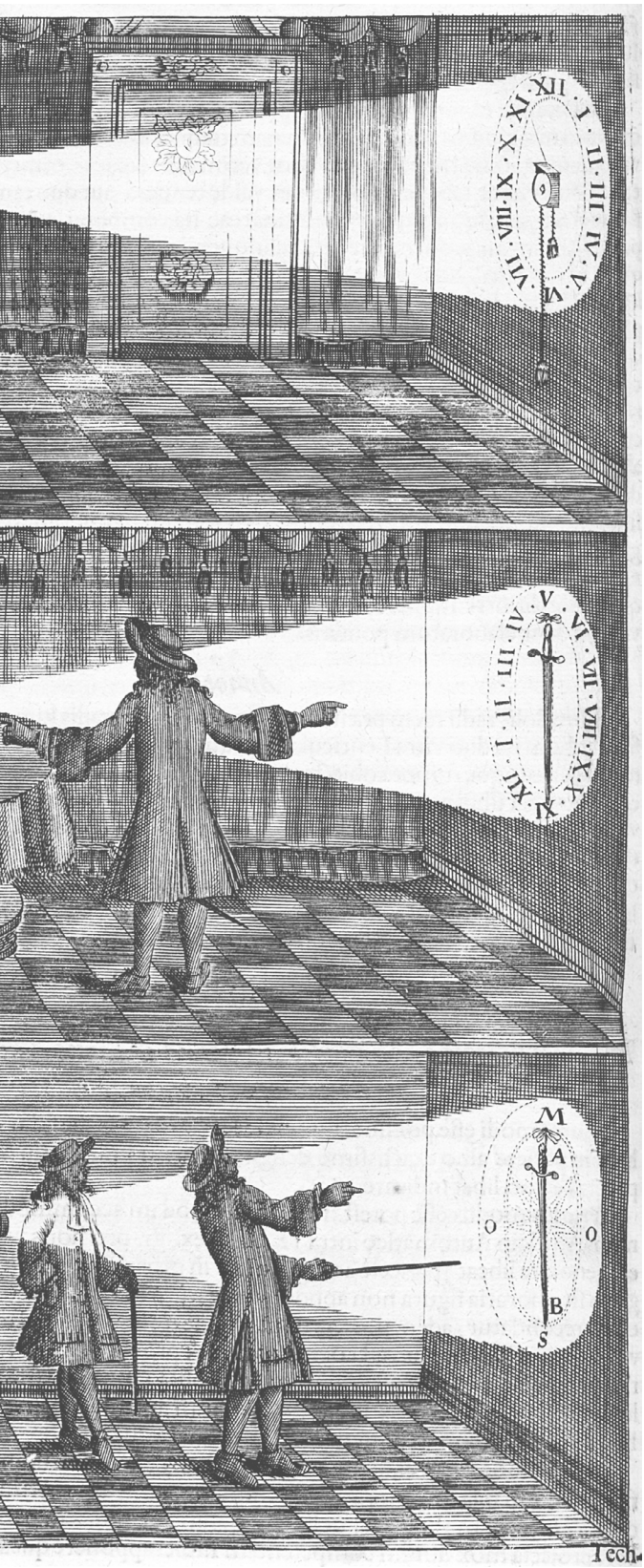
"Pepper's Ghost got its name from a scientist at the Royal Polytechnic Institute, John Henry Pepper. Pepper had recently seen an invention by engineer Henry Dircks who had the idea to use plate glass to create the illusion of ghosts.

Theatrical performances involving supernatural elements, called Phantasmagoria, were popular at the time, but Dircks' invention proved too expensive to be of interest to theatres. Pepper, however, was able to modify the invention so that it was affordable for theaters to install. He and Dircks filed a patent and Pepper's Ghost became the rage of London, and– rather quickly– other cities world-wide.

[...]

Barnum wrote about Pepper's Ghost as if it were merely an entertainment, but Professor Pepper and Dircks saw the Ghost as a means to educate audiences about scientific principles of physics, light and optics. Other scientists, like Augustin Privat-Deschanel, in his Elementary Treatise on Natural Philosophy, made reference to Pepper's Ghost as well, describing it as one of several "ingenious illusions that have been contrived" which rely on "the laws of reflection from plane surfaces" (From the Internet Archive). Pepper's Ghost is still studied by illusionists and magicians today. Disney even adopted it for use in the Haunted Mansion in the 1960s to create the illusion of ghosts in its grand ballroom!

Early drawing of a magic lantern in use from Zahn's Oculus Artificialis Teledioptricus Sive Telescopium (1702). Rakow Library collection

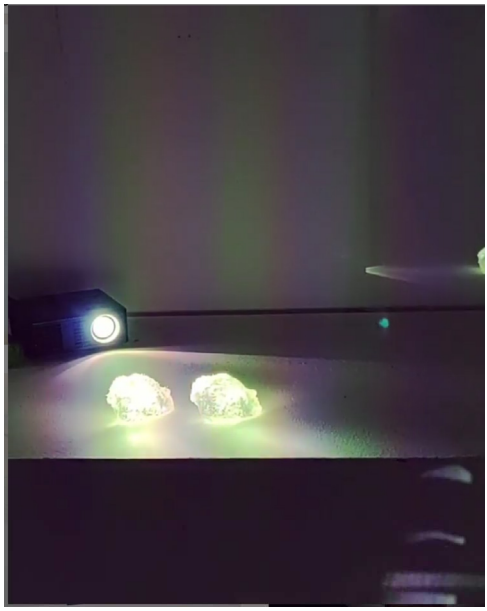



Pepper's ghost, however, was just the latest variation upon an even older technology called the Magic Lantern which had fascinated 17th century scientists. Its exact origins are unknown, but the earliest image of the lantern appears in Athanasius Kircher's Ars Magna Lucis et Umbrae, published in 1646.

Dutch scientist Christiaen Huygens is typically given the credit for inventing the lantern, however, and some historians even believe a form of the magic lantern existed prior to the 17th century. The lantern contained a mirror and a candle and had a tube attached to it, with convex lenses on either side. Inside the tube was a glass plate with a painted image–for a Phantasmagoria, the image would be of a ghost, skeleton, demon or other creepy character. The image would be projected onto a wall or screen of some kind.

Later innovators, like Etienne Gaspard Robertson, a successful Belgian producer of Phantasmagoria and professor of physics, would put the lantern on wheels so that the images would seem to swoop in towards audiences, often causing viewers to scream with terror. His patented "Fantoscope" was a huge hit with his audiences, making him a kind of 19th century Alfred Hitchcock.

(blog.cmog.org/2012/09/11/ghosts-and-magicand-glass/)



Hanne Peeraer, Reflection hologram experiments, 2019-20

Why optical illusions though? Why manipulating optics to engage the audience? What separates theatre from the kind of art that I consider myself to be a student of? Whereas my aim is not to "make audiences scream with terror" - I do believe there is a lot to discover in combining art with optics, in eliciting a feeling of magic, impossibility, ungraspability.
From Jonathan Crary's *Techniques of the Observer* (1992), written alongside an illustration of Pepper's Ghost:

But photography had already abolished the inseparability of observer and camera obscura, bound together by a single point of view, and made the new camera an apparatus fundamentally independent of the spectator, yet which masqueraded as a transparent and incorporeal intermediary observer and world. The prehistory of the spectacle and the "pure perception" of modernism are lodged in the newly discovered territory of a fully embodied viewer, but the eventual triumph of both depends on the denial of the body, its pulsings and phantasms, as the ground of vision.

The rapid development in little more than a decade of a vast array of computer graphics techniques is part of a sweeping reconfiguration of relations between an observing subject and modes of representation that effectively nullifies most of the culturally established meanings of the terms observer and representation. The formalization and diffusion of computergenerated imagery heralds the ubiquitous implantation of fabricated visual "spaces" radically different from the mimetic capacities of film, photography, and television. These latter three, at least until the mid-1970s, were generally forms of analog media that still corresponded to the optical wavelengths of the spectrum and to a point of view, static or mobile, located in real space.
Computer-aided design, synthetic holography, flight simulators, computer animation, robotic image recognition, ray tracing, texture mapping, motion control, virtual environment helmets, magnetic resonance imaging, and multispectral sensors are only a few of the techniques that are relocating vision to a plane severed from a human observer. [...] If there is in fact an ongoing mutation in the nature of visuality, what forms or modes are being left behind? What kind of break is it? At the same time, what are the elements of continuity that link contemporary imagery with older organizations of the visual? To what extent, if at all, are computer graphics and the contents of the video display terminal a funher elaboration and refinement of what Guy Debord designated as the "society of the spectacle?"

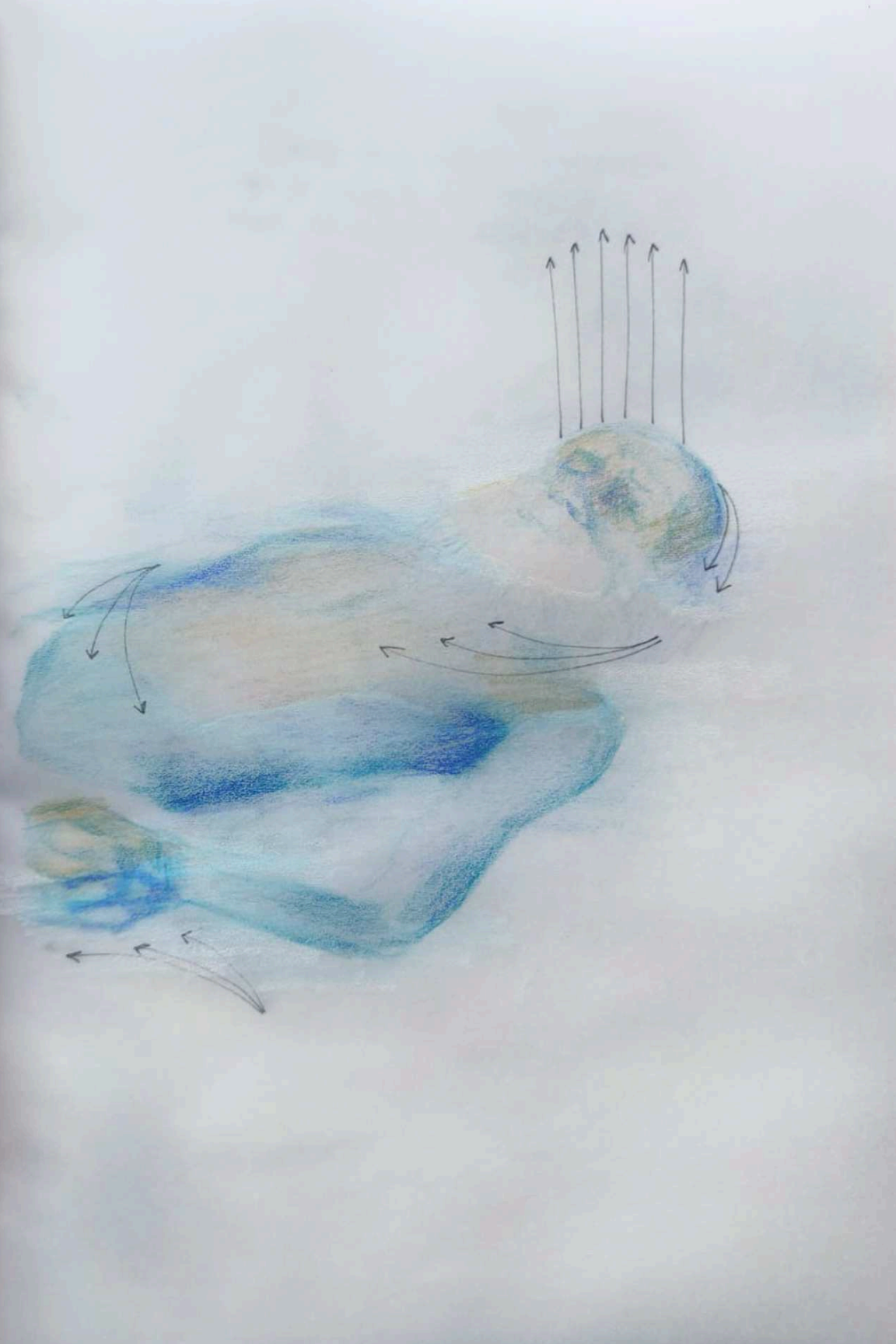
There is something to say for honouring and continuing to reinvent and incorporate historical devices whose aim was to investigate vision and all its facets. How can we manipulate our vision to access different parts of our minds? How can we use physiological optics to our advantage to - in the words of Bridget Riley - "destabilise the horizon"?

Why should we want to destabilise the horizon?

Mineral Oil

Watercolor ( Retro Pink Pear)
Brown Paper at 18 years of age.
Canvas, Painted, March 10, 2002.

# III
# Philosophy



# Yoga

# Yoga

opposite:
Radhakrishnan, S. and Moore, C., 1989. *A Sourcebook In Indian Philosophy*. Princeton, N.J.: Princeton University Press, p.453.

overleaf: text and images by Prof. Adrian Piper
adrianpiper.com/yoga/yoga_vs_philosophy.shtml
see also
adrianpiper.com/yoga/index.shtml
adrianpiper.com/yoga/yoga_gahananandaji.shtml

One of the main elements that fascinate me about using the visual techniques described in the previous chapter is that – due to them being so immersive and sometimes overwhelming – they force you to focus on the present. Since your perspective is being slightly changed and pulled into the unknown, (your horizon is being destabilised) you are forced to concentrate on what's going on right now so as to not lose it.

Yoga and meditation both are related to this because of precisely that quality: focus on Now. There is no past or future, there is only what is. To me, so much of what makes good art good art also has to do with that: you get pulled out of the world and into yourself. Yourself and the work, an honest unfiltered conversation that nobody can tell you otherwise about. (That's where truth comes in).

When I am practicing yoga, I am tuning into the feeling of my work.

Michael O'Neill, *Mallakambh Study #8*, 2009

CHAPTER XIII

# YOGA

THE word *yoga* has become well known in the West, though its different meanings and its deeper significance and purpose are not well understood. For Patañjali (2nd century B.C.), the founder of the Yoga system and the author of the basic text, the *Yoga Sūtra*, *yoga* is discrimination between subject and object, *puruṣa* (self or spirit) and *prakṛti* (Nature), which means the establishment of the self in its purity. *Yoga*, according to Patañjali, is a methodical effort to attain perfection, through the control of the different elements of human nature, physical and psychical.

The main interest of Patañjali is not metaphysical theorizing, but the practical motive of indicating how salvation can be attained by disciplined activity. The Yoga system accepts the Sāṁkhya psychology and metaphysics. However, it is definitely more theistic than the Sāṁkhya, as evidenced by the addition of God to the Sāṁkhya's twenty-five elements of reality.

What the Sāṁkhya calls *mahat* (the great one, or *buddhi* as described in the previous chapter) is called *citta* (mind-stuff) in the Yoga system. It undergoes modifications when it is affected by objects through the senses. The consciousness of *puruṣa* reflected in it (*citta*) gives rise to the impression that it is the experiencer. *Citta* is really the spectacle of which the self is by reflection the spectator. We have as many *cittas* as there are selves. The ego is different from the self and is dependent on the experience of the world. The life of the ego is restless and unsatisfied, being subject as it is to the five afflictions of (1) ignorance or the mistaking of the non-eternal for the eternal, (2) the erroneous identification of oneself with the instruments of body and mind, (3) attachment to pleasant things, (4) hatred of unpleasant things, and (5) the instinctive love of life and the dread of death. When the self is freed from *citta* it withdraws itself into its own pure nature.

The special feature of the Yoga system is its practical discipline, by which the suppression of mental states is brought about through the practice of spiritual exercises and the conquest of desire. The Yoga gives us the eightfold method of abstention, observance, posture, breath-control, withdrawal of the senses, fixed attention, contemplation, and concentration. The first two of these refer to the ethical prerequisites for the practice of *yoga*. We should practice non-violence, truthfulness, honesty, continence,

# Yoga vs. Philosophy?

Yoga is one of the six orthodox systems of Indian philosophy, "orthodox" in this context meaning grounded in the Vedas, the most ancient written scriptures in human history. As a developed philosophical view, Yoga is surpassed in longevity only by Samkhya, which predates the Vedas, and from which Yoga appropriates its metaphysics. Systematized by Patanjali in the Yoga Sutras sometime around the third or second century B.C.E., some of the defining spiritual and physical practices of Yoga are nevertheless described in some detail in the Svetasvatara Upanishad, one of the culminating philosophical treatises of the Vedas, which are estimated to be at least six thousand years old. The Bhagavad Gita, probably written around the sixth century B.C.E., condenses and renders accessible to a more general, educated readership the basic philosophical doctrines of the Upanishads. These include the defining principles of jnana yoga, karma yoga and bhakti yoga – the yogas of analysis and scholarship, of action, and of devotion respectively. Thomas McEvilley's The Shape of Ancient Thought: Comparative Studies in Greek and Indian Philosophies ably describes the multiple channels of historical transmission through which the essential philosophical issues that defined the Vedic and Buddhist traditions were bequeathed to the Pre-Socratics – and thence to Western philosophy in classical Greece. As we see, Yoga has a very ancient and distinguished pedigree as a bona fide philosophical view itself – a view that influenced the thinking of the Pre-Socratics, Plato and Aristotle. Yet my decision to devote an independent section of this website to Yoga, separate from the section on Philosophy, suggests that it is a different and unrelated activity. This requires explanation.

Yoga started to become "yoga" in the United States when Swami Vivekananda (1863-1902), founder of the Ramakrishna Order, re-introduced it to the West in 1893, at the World Parliament of Religions in Chicago. Vivekananda presented Yoga not as a distinctive philosophical system in its own right, but rather as the set of practical spiritual disciplines – of meditation, breath control, physical postures, personal hygiene, and ethical precepts – in which Vedanta, another one of the six orthodox systems of Indian philosophy, found concrete personal application. This was not misleading: Yoga does contain these practical applications, in addition to the abstraction, analysis and argumentation of Samkhya, Vedanta, and its own distinctive metaphysics and epistemology. And traditionally, Yoga philosophy has been adapted and put to practical use in many Indian philosophical systems, both Vedic and non-Vedic.

Yoga philosophy's gradual divorce from philosophy proper, and transformation into the Western conception of yoga as physical fitness was accelerated by the approach to Yoga of Tirumalai Krishnamacharya (1888-1989), a hatha yoga adept and scholar of the six orthodox philosophical schools. Krishnamacharya transmitted the practical yogic disciplines he had learned from his father to his four most famous students: Indra Devi (an influential European teacher in North America in the 1960s), B.K.S. Iyengar, Pattabhi Jois, and his son, T.K.V. Desikachar. The first three developed Krishnamacharya's teachings in directions that emphasized the physical postures and breath control over the other practical spiritual disciplines with which they were intrinsically connected. Iyengar and Jois became and have remained extremely popular in the United States. Other teachers such as Swami Satchidananda and Swami Vishnudevananda, both students of Swami Sivananda (1887-1963) of Tamil Nadu, taught more integrated versions of yoga in North America in the 1960s and '70s. But these, too, tended to emphasize its practical holistic health benefits rather than its spiritual and philosophical background.

However, none of these influences would have been sufficient to reduce a complex philosophical view containing highly ramified metaphysical, epistemological, and ethical analyses to a method of physical fitness training in which virtually no trace of this complexity is to be found. To understand this, we must turn to the audience that received these teachings, and rewarded its teachers for adapting them to the American landscape. America is the land of new beginnings, of erasing the past and starting over, without the weight of memory, history or tradition. It has always been the weightlessness of the country, the multiplicity of possible futures it offers, untrammeled by complicated prior obligation, which leads emigrants from troubled lands to want to resettle there. Without the weight of these complicating factors, the many opportunities it promises are merely neutral objects, events or states of possibility, there to be used, pressed into service to further one's goals and dreams.

The advantages of such an approach to Yoga are obvious. Strip it of its spiritual and intellectual significance, its ancient philosophical tradition, its complex connections to other Vedic philosophies and to Hindu culture and history, its ultimate point and purpose (which is to confront one's own death with courage and grace), and the austerities and disciplines of mind and body needed to achieve that purpose – and it becomes yoga, a quite potent program of physical exercises that firms the tummy, moulds the pecs, improves the complexion, and reduces stress no matter what one's goals or dreams or ultimate purpose might be. And then one can certainly see how such a program might be enhanced by further reflection on how to use it, and on the proliferating varieties of ways in which it can be used: to promote corporate bonding, for example; or to increase the efficiency and volume of labor output; or to enhance one's competitive advantage whether in sports or society.

These pages of my website cannot compensate for the prior philosophical contributions, constitutive of the Yogic philosophical tradition, which must be ignored in order to believe it to be disconnected from philosophy proper. Without comprehending and acknowledging that tradition as one that inspired and still undergirds the Western one, and without a serious acquaintance with that absent tradition, it is unlikely that we Western philosophers can do more than reinvent the wheel. It is to be hoped, therefore, that this section of my website will at least serve to recall and honor that tradition from the personal perspective which that tradition itself honors.

But my deeper hope is that professional philosophers who visit these pages will eventually take it upon themselves to begin the long, slow process of reintegrating the Eastern philosophical tradition with the Western one, of reminding us what we have lost – by restoring the application of theory to practice as a central measure of philosophical worth; by restoring, too, the more generous conception of the self extending beyond the ego that Western philosophy has forgotten; by restoring to a central place in our thinking the insights of Yoga into the structure of the ego and its relation to change, desire, and acquisitions; and thereby restoring the methods, practices and wisdom of Yoga to its rightful place among the many philosophical traditions that express our capacities for intellectual analysis and spiritual growth.

———

*© APRA Foundation Berlin 2012

[1] (New York: Allworth Press, 2002)

[1] "Hatha yoga" is a general term referring to any method of teaching the physical postures, or asanas. It is not one among those methods but rather a blanket term that refers to all of them. Thus Iyengar Yoga, Bikram Yoga, Ashtanga Yoga, Anusara Yoga, and Power Yoga are all schools of hatha yoga.

Selected stills from documentary - and associated photography project - Michael O'Neill's *On Yoga: The Architecture of Peace*

# Ontologies

to start, selected notes from Ian Monroe's talk at Wimbledon College of Arts in November 2018:
Immateriality and Materiality:
Negotiating the role of the maker in the 21st Century

**Ontology** is a major branch of Metaphysics. It is a philosophy that studies the essence of a thing, including questions of being, becoming, existence, reality, etc. What exists? What is a thing? Can we sort existing things into categories? What are the meanings of things?

**Epistemology** is the study of knowledge itself; the nature of knowledge, justification, and the rationality of belief. How do we know what we know? What does it mean to say that we know something? What makes justified beliefs justified?

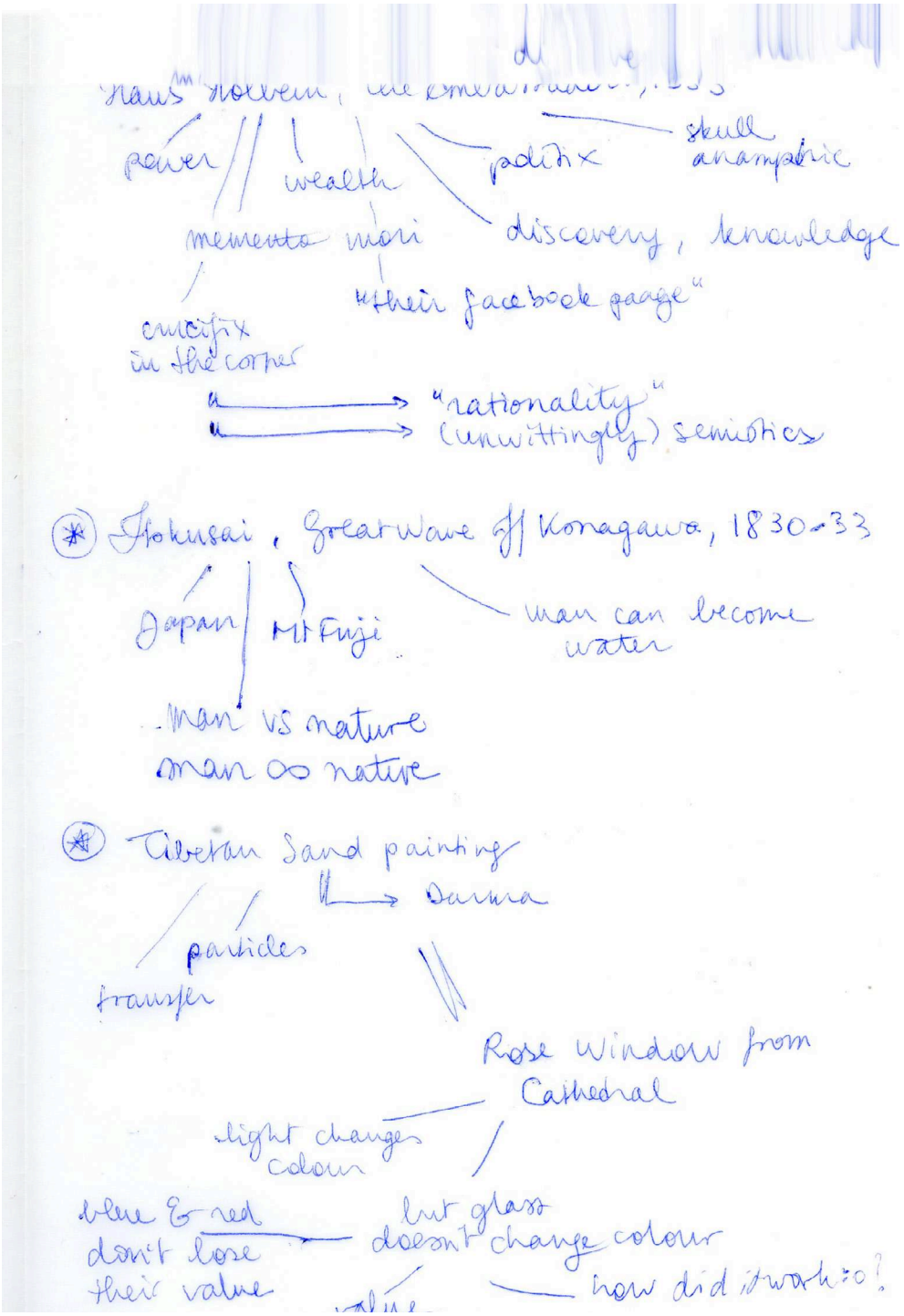
*Object-Oriented ontology puts things at the centre of its study. A mid-way between scientific naturalism (which breaks everything down into smaller aggregate bits) and social relativism (that sees everything as a construction of human behaviour), OOO draws attention to all scales, pondering their nature with eachother as much as with ourselves.*

1. Materials and Meaning
- global cultures have looked for meaning in materials and objects
- symbol and material are combined through craft to create culture
- meanings and symbols change through time and context

2. Western philosophy
- the struggle to reconcile things within the mind and outside the mind
- objects may be a collection of relations to other things
- two methods that have problems; undermining and overmining

3. Speculative Realism and Object-Oriented ontology (OOO)
- a new approach towards objects that removes the human as a 'top object'
- all things do exist, but they withdraw and we can never access them
- artists have long sensed this, but OOO gives some new support to the power of objects to endure and act across time and distance

4. Hauntology
- we are entering a period where objects are returning from their original capitalist birth as 'retro' or 'post-authentic' objects
- kind of uncanny nostalgia for a future we haven't lived




warning: notes may appear incoherent

Individual Component
(decomposed)
Shimano Alfine → undermine to market
11 speed hub

PART 3 SPECULATIVE REALISM & OOO

Ian Bogost – Object Oriented Ontology

bogost.com/writing/blog/what-is-it-objectoriented_ontology/

Into smaller bits ⟷ Into constr. of human behav. & society

↑
OOO

OOO → human no longer central

flat ontology

Graham Harman
Jane Bennett
Quentin Meillassoux

2007 Speculative Realism @ Goldsmiths

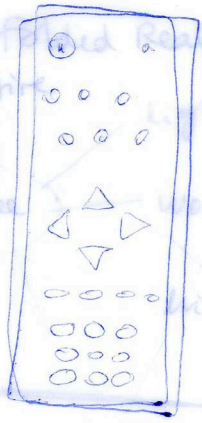
underlying object reality

New York = new yorks ever from diff angle

PART 2 brief history of Western phil. and TV remote controls

Ontology — Meaning of existence

Epistemology — How do we know what we know?



inside the mind

outside the mind

how does remote comm w/ TV?

What is the nature of the remote?

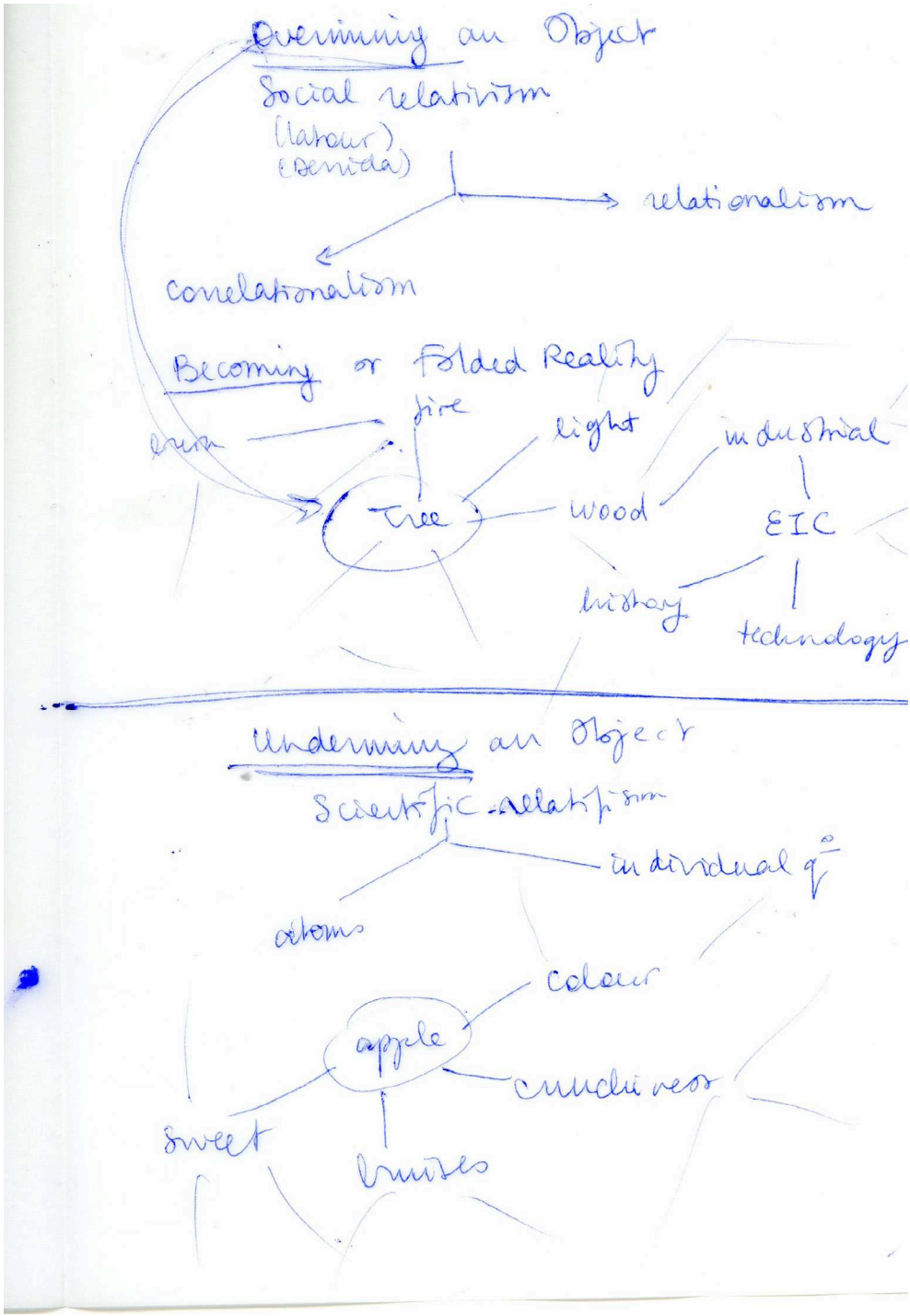
Copernicus → universe centered on Sun

Kant → objects are sense bundles in perceiver's mind

Heidegger → being only exists in human understanding

Derida → things become what they are (constantly) in relation to their surroundings

Latour → Actor Network Theory no things, just relations


Overmining an Object
Social relativism
(latour)
(Benida)
relationalism
correlationalism
Becoming or Folded Reality
earth
fire
light
industrial
tree
wood
EIC
history
technology
Undermining an Object
Scientific relativism
individual q°
atoms
colour
apple
crunchiness
sweet
bruises

continent.

# Meillassoux's Virtual Future*

***Graham Harman***

*continent.* 1.2 (2011) 78-91

This article consists of three parts. First, I will review the major themes of Quentin Meillassoux's *After Finitude*. Since some of my readers will have read this book and others not, I will try to strike a balance between clear summary and fresh critique. Second, I discuss an unpublished book by Meillassoux unfamiliar to all readers of this article, except those scant few that may have gone digging in the microfilm archives of the École normale supérieure. The book in question is Meillassoux's revised doctoral dissertation *L'Inexistence divine* (or *The Divine Inexistence*), with its seemingly bizarre vision of a God who does not yet exist but might exist in the future. Without literally accepting this view, I will claim that it is philosophically interesting in ways that even a hardened sceptic might be able to appreciate. Third and finally, I will speculate on the possible future of Meillassoux's speculative materialism itself. And here I mean its future development not by Meillassoux, but by those readers who might be inspired by his book. Plato could never have predicted the emergence of Aristotle's philosophy, despite the obvious debt of the latter to the former. Nor could Descartes have predicted Spinoza and Leibniz, nor Kant the German Idealists, and neither could Husserl in 1901 have foreseen the later emergence of Heidegger. How are the works of interesting philosophers transformed by later thinkers of comparable importance? While it may seem that there are countless ways to do this, I think there are only two basic ways in which this happens: you can *radicalize* your predecessors, or you can *reverse* them. I will close this article with a few words about these two methods, and try to imagine how Meillassoux might be radicalized or reversed by some future admirer. My view is that the more important thinkers are, the *easier* they are to radicalize or reverse. This helps explain why the great philosophers of the West have so often appeared in clusters, succeeding one another at relatively brief intervals during periods of especial ferment.

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In metaphysics, realism about a given object is the view that this object exists in reality independently of our conceptual scheme. In philosophical terms, these objects are ontologically independent of someone's conceptual scheme, perceptions, linguistic practices, beliefs, etc.

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In philosophy, idealism is the group of metaphysical philosophies that assert that reality, or reality as humans can know it, is fundamentally mental, mentally constructed, or otherwise immaterial. Epistemologically, idealism manifests as a skepticism about the possibility of knowing any mind-independent thing.



## 1. *After Finitude*

*After Finitude* is unusually short for such an influential book of philosophy: running to just 178 pages in the original French, and an even more compact 128 pages in the English version, despite the introduction of roughly eight pages of new material for the English edition. Rather than summarizing Meillassoux's book in the order he intended, I will focus on six points that strike me as the pillars of his debut book. Along the way, I will offer a few criticisms as well.

The first pillar of the book is Meillassoux's own term "correlationism."[1] Although he introduces this term as the name for an enemy, it is striking that Meillassoux remains *impressed* by correlationism much more than his fellow speculative realists are. This continued appreciation for his great enemy influences the shape of his own ontology. Is there a world outside our thinking of it, or does the world consist entirely in being thought? Traditionally, this dispute between realism and idealism has been dismissed in continental philosophy as a "pseudo-problem," in a strategy pioneered by Husserl and extended by Heidegger. We cannot be realists, since following Kant we have no direct access to things-in-themselves. But neither are we idealists, since the human being is always already outside itself, aiming at objects in intentional experience, deeply engaged with practical implements, or stationed in some particular world-disclosing mood. The centuries-old dispute between realism and idealism is dissolved by saying that we cannot think either real or ideal in isolation from the other. There is neither human without world nor world without human, but only a primordial correlation or rapport between the two. This is what "correlationism" means: philosophy trapped in a permanent meditation on the human-world correlate, trying to find the best model of the correlate: is it language, intentionality, embodiment, or some other form of correlation between human and world? Among other problems, this generates some friction between philosophy and the literal meaning of science. When cosmologists say that the universe originated 13.5 billion years ago, they do not mean "13.5 billion years ago *for us*," but *literally* 13.5 billion years ago, well before conscious life existed, and thus at a time when there was no such thing as a correlate. Meillassoux also coins the term "ancestrality" (10) for the reality that predated the correlate, and later expands this term to "dia-chronicity," (112) to refer to events occurring after the extinction of human beings no less than to those occurring before we existed.

Up to this point, Meillassoux's focus on ancestral entities existing prior to consciousness might seem like a straightforward realist who wants to unmask correlationism as just another form of idealism. Yet Meillassoux also *admires* the correlationist maneuver, which can obviously be traced back to Kant. Unlike a thinker such as Whitehead, Meillassoux feels no nostalgia for the pre-critical realism that came before Kant: "we cannot but be heirs of Kantianism," he says (29). What impresses Meillassoux about correlationism is something both simple and familiar. If we attempt to think a tree outside thought, *this is itself a thought*. Any form of realism which thinks it can simply and directly address the world the way it is fails to escape the correlational circle, since the attempt to think something outside of thought is itself nothing other than a thought, and thereby collapses back into the very human-world correlate that it pretends to escape. For Meillassoux this step, suggested by Kant but first refined by the ensuing figures of German Idealism, marks decisive forward progress in the history of philosophy that must not be abolished. Any attempt to break free from the correlate must first acknowledge its mighty intellectual power. Realist though he may seem, Meillassoux's works are filled with praise of such figures as Fichte and Hegel, not of

1. Quentin Meillassoux, *After Finitude*. Trans. R Brassier. (London: Continuum, 2008.) Page 5. The word "correlationism" does not appear in his doctoral thesis. As Meillassoux informed me in an email of February 8, 2011, he first coined this term in 2003 or 2004, while editing for publication a lecture he had given at the École normale supérieure on a day devoted to the theme of "Philosophy and Mathematics," an event including Alain Badiou as one of the participants.

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"the idea according to which we only ever have access to the correlation between thinking and being, and never to either term considered apart from the other"

so-called "naïve realists."

It is also the case that for Meillassoux, not all correlationisms are the same. The second pillar of his book is a distinction between various positions that I have termed "Meillassoux's Spectrum," though of course he is never so immodest as to name it after himself. He distinguishes between at least six different possible positions, and perhaps we could add even subtler variations if we wished. But in its simplest form, Meillassoux's Spectrum allows for just four basic outlooks on the question of realism vs. anti-realism. Three of these are easy to understand, since we have already been discussing them. At one extreme is so-called "naïve realism," which holds that a world exists outside the mind, and that we can know this world. Meillassoux rejects this naïve realism as having been overthrown by Kant's critical philosophy. At the other extreme is subjective idealism, in which nothing exists outside the mind. For to think a dog outside thought immediately turns it into a thought, and therefore there cannot be anything outside; the very notion is meaningless. In between these two is what we have called correlationism. And here comes a crucial moment for Meillassoux, since he distinguishes between the two forms of "weak" and "strong" correlationism, and chooses the strong form as the launching pad for his own philosophy.

Weak correlationism is easy to explain, since we all know it from the philosophy of Kant. The things-in-themselves can be thought but not known. They certainly must exist, since there cannot be appearances without something that appears. And we can think about them, which idealism holds to be impossible. They are simply unknowable due to the finitude of human thought.

Strong correlationism is the new position introduced by Meillassoux (though he sees it at work in numerous twentieth century thinkers), midway between weak correlationism and subjective idealism. The major difference between the three positions is as follows. Weak correlationism says: "The things-in-themselves exist, but we cannot know them." The subjective idealist says: "This is a contradiction in terms, since when we think the things-in-themselves, we already turn them into thoughts." But the strong correlationist says: "Just because 'things-in-themselves' is a meaningless notion does not mean that they cannot exist. No one has ever traveled to the world-in-itself and come back to make a report on it. Thus, the fact that we cannot think things-in-themselves without contradiction does not prove that they do not exist anyway. There may be things-in-themselves, we simply are not capable of thinking them without contradiction form within the correlational circle." This step is crucial for Meillassoux, since strong correlationism is the position he attempts to radicalize into his own new standpoint: speculative materialism.

As I see it, this step of the argument fails. Strong correlationism cannot avoid collapsing into subjective idealism, since the statements of the strong correlationist are rendered meaningless from within. All three of the other positions in the Spectrum make perfectly good sense even for those who disagree with them. The naïve realist says that things-in-themselves exist and we can know them; the meaning of this statement is clear. The weak correlationist can say that things-in-themselves exist but lie forever beyond our grasp; this too makes perfect sense, even though the German Idealists try to show a contradiction at work here. We can also understand the claim of the subjective idealist that to think anything outside thought turns it into a thought, and that for this reason we cannot think the unthought. The strong correlationist, alone among the four, speaks *nonsense*. This person says "I cannot think the unthought without turning it into a thought, and yet the unthought might exist anyway." But notice that the final phrase "the unthought might exist anyway" is fruitless for this purpose. For we have already heard that to think any unthought turns it into a thought. But now the strong correlationist wants to do two incompatible things simultaneously with this unthought. On the one hand, he neutralizes the unthought by showing that it instantly changes into just another thought. But on the other hand, he wants to appeal to the unthought as a haunting residue that *might* exist outside thought, thereby undercutting the *absolute* status of the human-world

correlate found in idealism. But this is impossible. If you accept the argument that thinking the unthought turns it into a thought, you cannot also add "but maybe there is something outside that prevents this conversion from being absolutely true," because this "something outside" is immediately converted into nothing but a thought for us. In short, Meillassoux here seems to be offering a kind of Zen koan: his "strong correlationism" is reminiscent of the gateless gate, or the sound of one hand clapping, or the command to punch Hegel in the jaw when meeting him on the road. We cannot at the same time *both* destroy the realist challenge of the things-in-themselves in order to undercut realism *and* reintroduce that very realist sense in order to undercut idealism. In a world where everything is instantly converted into thought, we cannot claim that there might be something extra-mental anyway, because this "might be something" is itself converted into a thought by the same rules that condemned dogs, trees, and houses to the idealist prison.

This brings us to the third pillar of Meillassoux's argument, which is the key to all the rest: the necessity of contingency. His strategy is to transform our supposed ignorance of things-in-themselves into an absolute *knowledge* that they exist without reason, and that the laws of nature can change at any time for no reason at all. In this way the cautious agnosticism of Kantian philosophies is avoided, but so is the collapse of reality into thought as found in German Idealism. Meillassoux does try to prove the existence of things-in-themselves existing outside thought; he simply holds that they must be proven after passing through the rigors of the correlationist challenge, not just arbitrarily decreed to exist in the manner of naïve realism. As he puts it, "Everything could actually collapse: from trees to stars, from stars to laws, from physical laws to logical laws; and this not by virtue of some superior law whereby everything is destined to perish, but by virtue of the absence of any superior law capable of preserving anything, no matter what, from perishing" (53).

If idealism thinks that the human-world correlate is absolute, for Meillassoux it is the *facticity* of the correlate that is absolute. He tries to show this with a nice brief dialogue between five separate characters (55-59) which is covered in detail in my forthcoming book,[2] but which I will simplify here for reasons of time. In this simplified version, we first imagine a dogmatic realist arguing with a dogmatic idealist. The realist says that we can know the truth about the things-in-themselves; the idealist counters that we can only the truth about thought, since all statements about reality must be turned into statements concerning our *thoughts* about reality. Here the correlationist enters and proclaims that both of these positions are equally dogmatic. For although we have access to nothing but thoughts, we cannot be sure that these thoughts are all that exist; there *could be* a reality outside thought, there is simply no way to know for sure. And this latter position is the one that Meillassoux attempts to transform from an agnostic, skeptical point into an ontological claim about the contingency of everything. Consider it this way. How does the correlationist defeat the idealist? The idealist holds that the existence of anything outside thought is impossible. The correlationist, by contrast, holds that something might exist outside the human-world correlate. But this "something might" has to be an absolute possibility. It cannot mean that "something outside thought might exist for *thought*," because that is what the idealist already says. No, the correlationist must mean that something might exist outside thought *quite independently* of thought. In other words, the correlationist says that idealism might be wrong, and this means it is *absolutely* true that idealism might be wrong. Thus, correlationism is no longer just a skeptical position. It holds that all the possibilities of the world are absolute possibilities. We have *absolute knowledge* that any of the possibilities about the existence or non-existence of things-in-themselves might be true, and this means that correlationism flips into Meillassoux's own position: speculative materialism.

2. Graham Harman, *Quentin Meillassoux: Philosophy in the Making*. (Edinburgh: Edinburgh University Press, forthcoming 2011).

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principle of factiality, which states that things could be otherwise than what they are

As Meillassoux sees it, there are only two options here. Option A is to absolutize the human-world correlate, which is what the idealist does: there absolutely cannot be anything outside thought. Option B, by contrast, is to absolutize the *facticity* of the correlate: its character of simply being given to us, without any inherent necessity. The correlationist cannot have it both ways by saying: "there absolutely might be something outside thought, yet maybe this is absolutely impossible." In other words, once we escape dogmatism we can only be idealists or speculative materialists, not correlationists. The human-world correlate is merely a fact, not an absolute necessity. But this facticity itself cannot be merely factical: it must be absolute. Here Meillassoux coins the French neologism *factualité*, which has been suitably translated into the English neologism "factiality" (7, 122-3) Factialty means that for everything that exists, it is absolutely possible that it might be otherwise, not just that we cannot *know* whether or not it might be otherwise. Just as Kant transformed philosophy into a meditation on the categories governing human finitude, Meillassoux wishes to turn philosophy into a meditation on the necessary conditions of factiality, which he calls "figures"—a new technical term for him. (80) One such figure is that the law of non-contradiction must be true, and for an unusual reason. Since everything is proven to be contingent, nothing that exists can be contradictory, for whatever is contradictory has no opposite into which it might be transformed, and thus contingency would be impossible.[3] Another such figure is that there must be something rather than nothing: for since contingency exists, something must exist in order to be contingent. It is a daring high-wire act, one that sacrifices realism to the correlational circle in order to rebuild it from out of its own ashes.

Some might conclude that the lack of reason in things is a byproduct of the ignorance of finite humans, Meillassoux is making precisely the opposite point. For in fact, the doctrine of finitude usually leads directly to belief in a hidden reason. The fact that it lies beyond human comprehension merely increases our belief in this arbitrarily chosen concealed ground. By defending anew the concept of absolute knowledge Meillassoux evacuates the world of everything hidden. The reason for things having no reason is not that the reason is hidden, but that no reason exists.

Thus, even while insisting on the necessity of non-contradiction, he rejects the other Leibnizian principle: sufficient reason. Everything simply is what it is, in purely immanent form, without deeply hidden causes. Or as Meillassoux puts it: "There is nothing beneath or beyond the manifest gratuitousness of the given—nothing but the limitless and lawless power of its destruction, emergence, or persistence" (63).The world is a "hyper-chaos"(64). But this is not the same thing as flux. For the chaos of the world is such that stability might occur just as easily as constant, turbulent change.

Let's now digress a bit, and return to the question of ancestrality, which Meillassoux transforms later in the book into "dia-chronicity." Correlationism holds that all talk of a world outside the correlate is immediately recuperated by the correlate. The phrase "13.5 billion years ago" becomes "13.5 billion years ago for us," and the phrase "the universe following the extinction of humans" becomes "the universe following the extinction of humans *for humans*." But notice that whether we talk about the world before or after humans, in both cases it is *time* that is used to challenge the correlate. Meillassoux has no interest in challenges that might be posed by space. For example, what about a vase in a lonely country house that topples to the floor and smashes when no one is there to watch it? Isn't this also a challenge to correlationism, no less than the Big Bang or the heat death of the universe long after humans have vanished? In an eight-page supplement to the English translation of *After Finitude*,[4]

3. In an email of December 6, 2010, Meillassoux clarifies that in *After Finitude* he only deduces the impossibility of a "universal contradiction," not of a determinate contradiction. In the same email he suggests that he can also prove the latter, though the proof is somewhat lengthier than the one found in *After Finitude*.

4. *After Finitude* (18-26), in the passage falling between the two sets of triple asterisks. These pages were sent by Meillassoux to translator Ray Brassier (in French) during the translation process, and do not appear in the original French version of the book.

possibly in response to my own 2007 review of the French original,[5] Meillassoux bluntly denies that space is of any relevance to the question. Spatial distance is a merely harmless challenge to the human-world correlate. After all, even though no one is there in the lonely country house to witness the shattering of the vase, we can say that *had there been an observer*, that observer would have witnessed the toppling and destruction of the vase. For this event still occurs in a world in which the human-world correlate already exists, whereas the diachronicity of events both before and after the existence of humans makes it impossible to say that *had there been an observer* they would have witnessed the Big Bang occurring in such and such a fashion. However, it seems to me that Meillassoux merely asserts that the temporal simultaneity of our existence with that of the vase in the lonely country house is enough to render it harmless. It is true that the house does not exist prior to the correlate, but nonetheless it exists *outside* the correlate, and that is enough to make the same challenge. It is difficult to see why the "had there been an observer" maneuver succeeds in the case of a vase in the countryside in April 2011 but fails in the case of the Big Bang.

This is not just a matter of nitpicking Meillassoux's argumentative style: the fact that he bases his argument on time has at least two important consequences for his position. For in the first place, even though Meillassoux insists that the laws of nature are absolutely contingent, this turns out to be true only in a temporal sense. That is to say, it is a paradoxical feature of Meillassoux's philosophy that he does allow for the existence of laws of nature, and simply believes that they can change at any moment without reason. Within any given moment, laws of nature do exist. He never suggests that different parts of the universe can have different laws at the same time, nor does he have any interest in the laws of part/whole composition that take place within any given instant. Could it be the case that rather than being made of gold atoms, a small chunk of gold could be made of silver atoms, cotton, horses, or that this same small piece of gold could be made of gigantic vaults filled with even more gold? These are not topics that draw Meillassoux's attention, since he is focused solely on how the laws of nature might change or endure *from one moment to the next*.

Another implication for Meillassoux's system is that his concept of things-in-themselves turns out to be to be inadequate. For when he proves that things-in-themselves can exist without humans, this turns out to be true only in a temporal sense as well. Namely, things-in-themselves existed ten billion years ago, and they will continue to exist after all humans have succeeded in exterminating themselves. However, being able to exist before our births and after our deaths is just one small part of what it means to be a thing-in-itself. The more important part is that even if a thing is sitting on a table right now, in front of me, even if I stroke it lovingly or press my face up against it directly, I am still dealing only with a phenomenal version of the thing; the thing-in-itself continues to withdraw from all access. Yet no such thing is acknowledged by Meillassoux. For him finitude is a disaster, and absolute knowledge is in fact possible. Meillassoux's thing-in-itself exists in independence only of the human *lifespan*, not of human knowledge.

The fifth pillar of Meillassoux's argument is his use of Cantor's transfinite mathematics to show that even if the laws of nature are contingent, they need not be unstable, and thus we cannot use the apparent stability of nature to disprove his metaphysics of absolute contingency. What Cantor showed is that there are different sizes of infinity, and that all these infinities cannot be totalized in a single infinite number of infinities. Meillassoux sees this as crucial, since it allows him to discredit any "probabilistic" argument against his theory. The probabilistic argument (as defended quite clearly by Jean-René Vernes)[6] would say this: given that the laws of nature seem so stable, it

5. Graham Harman, "Quentin Meillassoux: A New French Philosopher." *Philosophy Today* 51.1 (2007): Pages 104-117. The passage where I raise the question of space can be found in the first column of page 107.

6. Vernes is first cited on p. 95 of *After Finitude*. See Jean-René Vernes, *Critique de la raison aléatoire, ou Descartes contra Kant*. (Paris: Aubier, 1982).

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*Addendum: Essays*

# Hacking Time: Art at the Edge of Consciousness

In *Copenhagen Cycles* (2006), Eric Dyer creates a narrative through an infinitely repeating process of movement. Upon seeing his work, I was reminded of a quote by Henri David Thoreau: *"The astronomer is as blind to the significant phenomena, or the significance of phenomena, as the wood-sawyer who wears glasses to defend his eyes from sawdust. The question is not what you look at, but what you see."* [1] This quote encourages the reader to re-evaluate her perception of reality; Thoreau draws a line between the object as a material, physical substance (what you look at) versus an immaterial, subjective idea (what you see).

In this reflective statement I will describe how I interpret the juxtaposition of the material and the immaterial – a theme which over the last months has become a recurring motif in my own practice – as well as compare several artists' works in which I recognise this notion.

A zoetrope is a Victorian toy which consists of a drum with an image printed on the inside, and vertical slits on the side for the user to look through as the drum turns. In this way, the toy acts as an optical illusion that makes it seem as though the image is moving; it is one of the earliest forms of animation. For Copenhagen Cycles, Dyer films moving objects in Copenhagen, such as bicycles, boaters in the canals or the colours that explode in spring. These films are then printed onto long strips of inkjet paper and assembled in his twenty-five new versions of the zoetrope; ones which "*removed the drum and replaced the slits with a video camera*" [2] . Dyer then films these zoetropes in action and assembles the footage to create Copenhagen Cycles. The result is a highly unique mixture between a photograph, a video and a sculpture. "*To me, zoetropes are like time sculptures -- film and animation all contained within a single object.*" [3] Not only does Dyer reach back in time to reinvent an age-old way of animating, he also then uses his invention to depict a progression of time which repeats itself in a fragmented and almost hypnotic fashion. Thus, Dyer's work acts in several ways as a link between material and immaterial.

top: Eric Dyer's, zoetrope for *Copenhagen Cycles*, 2006
bottom: Markus Vater, *Mobile About Loneliness*, 2016

In order to properly explain what I mean by this statement, I will refer to Plato's Republic, in which he famously explains his theory of the Forms;
*"Let us take any common instance; there are beds and tables in the world – plenty of them, are there not? […] But there are only two ideas or forms of them – one of the idea of a bed, the other of a table."* [4] Plato uses this analogy to explain that every material object – that is, an object which we can see, feel, hear, taste or smell – has an immaterial counterpart; an idea or concept which exists in our minds.
Ludwig Wittgenstein, in Philosophical Investigations, implies that things can only truly exist within the limits of our vocabulary [5]; *"The limits of my language mean the limits of my world."* [6]

An example could be the sea. When we cease to have the term 'sea' in our vocabulary, the sea also ceases to exist. What is left are its components; the water, the fish and coral are naturally still there for us to observe and experience. However, the sea as a collective of these elements is no longer a notion. Wittgenstein makes us think - does reality change according to our language? Or, to take it a step further, what is this reality other than an abstract concept?
Wittgenstein and Plato can be compared inasmuch as Plato's "forms" could be the equivalent of "language" in Wittgenstein's theory. I am going to add several other terms which I consider to be corresponding or at least comparable to "forms" and "language"; concept, thought, mind and time. These terms are all versions of what I mean by immaterial, and they are all accompanied by their material counterpart; representation, sensation, body and (our proximate surrounding) space.

Eric Dyer's art incorporates the immaterial vs. material parallelism in two ways. First, the zoetrope seen as an object while it is spinning has many similarities to the never-ending flux in which our brains and bodies function. The confused and overpowering chaos of images and colour hints at the mechanisms of our solar system and the abstract ways in which time and space function together. In essence, though, the zoetrope is nothing but a construction of images printed on paper. Second, the parallelism can be recognised through what the visual experience provokes in the audience. Many indescribable and rather bewildering processes unfold in front of one's eyes, but recognisable images appear from time to time and evoke thoughts that can be developed.
Thus, Eric Dyer breaks down barriers between multiple aspects of our reality; he mingles our bodily senses with our minds, connects time and space, immaterial and material.

In his lecture at Wimbledon College of Art in 2018, Markus Vater explains that an image is a map to reality. A painting is not an image, but the image is what is formed in our minds while seeing the painting – paintings pose as images and are related to them. This concept is exactly what Wittgenstein speaks about in Philosophical Investigations; *"An image is not a picture, but a picture can correspond to it."* [7]

Vater states that there is a certain connection between action and thought, between hand and brain. His work builds a bridge between images and paintings, in a way which is comparable to Eric Dyer. In *A Mobile About Loneliness* (2016), a mobile of pictures and short texts, Vater introduces a three-dimensional object that moves along with the wind and the motion of the person walking through it. It is not just a single image, but something that is dynamic – constantly switching between showing an image and then retracting, leaving that image to exist only as a memory and immediately putting a different one in front of the observer's eyes.

An undeniable connection to be made with Dyer's work – and arguably with any good artist's work – is the subject of psychedelics and mind-altering drugs. By this I do not mean to imply that Dyer had the intention of explicitly referring to such subjects, but merely that elements of his art are reminiscent of certain aspects of the psychedelic experience. To clarify, I quote Aldous Huxley when relating his thoughts while under the influence mescaline, a natural psychedelic that induces hallucinogenic effects comparable to those of LSD:

*"My actual experience had been, was still, of an indefinite duration or alternatively of a perpetual present made up of one continually changing apocalypse. […] What the rest of us see only under the influence of mescalin, the artist is congenitally equipped to see all the time."*

Dyer's overwhelming visual imagery puts the audience in the present moment, compelling them to focus on what they are experiencing rather than thinking in the past or future – a state which the average human being rarely finds himself in. It is precisely this "perpetual present" that the user of psychedelic drugs inhabits.

Markus Vater's work approaches the subject of the perpetual present in the exact opposite way. Rather than forcing us to live in the now, his art pays extra attention to the fact that we do in fact have a habit of constantly living in our past or imagined future. By observing the mobile turn and change, one is reminded of her own mind turning and changing, never standing still to experience singular aspects of the present.

Michelangelo Pistoletto, from *Mirror Paintings* series, 1962-2010

One last artist I want to mention to further develop my argument is Michelangelo Pistoletto. In 1962, he starts a series called *Mirror Paintings*, in which he paints or prints photographs of figures on large reflective surfaces. When a person looks at the work he can therefore see his own current physical body alongside a photograph of someone who existed in the past; almost as though present-day were intruding in the world of the past. In short, Pistoletto takes a moment from history, puts it in a physical form which will last into the future, and applies it to a mirror which reflects our current ever-changing environment. Thusly, the artist "hacks" time by manufacturing a collision between time and space, and encourages us to contemplate; are we here or there, then or now? In that sense, Pistoletto's art investigates our mental states in the same way Vater does.

*"A finished painting is an impression of millions of impressions."*

Sigmar Polke hereby succinctly explains how a (successful) painting connects the immaterial with the material; an impression is a mental image which is then turned into a physical object, namely the artwork.

Eric Dyer – but also Markus Vater, Michelangelo Pistoletto and many others – all examine this precise connection. And since, as Polke states, the aim of all art is to connect mental with physical, they are essentially making art about art. It is this extra layer of meaning and analysis that convinces me of their success in portraying our reality in all its forms.

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# Vision as Dialogue

Hanne Peeraer

BA (Hons) Painting degree 2020
Wimbledon College of Arts

# Introduction

In Aldous Huxley's *The Human Situation* (1980), a collection of the author's lectures at the University of California in 1959, Huxley provides an insight into the sociological, psychological and artistic histories of contemporary humanity. The following quote comprises his closing words on the lecture entitled *Art*:

> *"All the arts, though they speak about us in our relationship to the immediate experience, at the same time tell us something about the nature of the world, about the mysterious forces which we feel to be around us, and about the cosmic order of which we seem to have glimpses".* (Huxley, 1980, p. 194)

Huxley hereby succinctly, and boldly, proposes a definition of art's function. Of all similar definitions I have read, this one struck me as the truest, the most congruent with my own experience when engaging with some of my favourite pieces. What makes this particular quote stand out to me is that it considers "*the arts*" not only in terms of their function, but puts particular emphasis on how they function in relation to *us*.

Throughout human history, what we consider to be art has changed and evolved, probably most exponentially in the last century where it has jumped from the nineteenth-century *beaux-arts* all the way through to concept- and performance art. However, what has not changed is the fact that a work of art is always comprised of more than one part: there is the object and there is the observer. Without observation there can be no representation.

This essay forms my account of how observation and representation cooperate, and why their coexistence is a necessary condition for a work of art to truly occur. By drawing from personal experience as well as external sources, I will

be examining the observer's dialogue with art through vision and perception from an artistic, historical, and technical point of view.

For the sake of clarity, in this essay will be using Huxley's quote as an unofficial definition of art; that which I will be referring to when employing terms like 'art', 'the arts', or 'a work of art'. I will dissect the quote and use as a tool to form my argument, putting particular focus on the following words: *mysterious forces, the nature of the world*, *immediate experience* and *cosmic order.*

2

## Mysterious forces and the nature of the world

The notion that a work of art acts in several ways as a bridge between *material* and *immaterial* has long since been one of the core motifs of my artistic practice. It is therefore important that I elaborate on this subject before moving on to the concept of mysterious forces.

My reasoning starts with a quote from Plato's *The Republic* (1888), dating back to ca. 380 BC, in which he famously explains his theory of the Forms;

> *"Let us take any common instance; there are beds and tables in the world – plenty of them, are there not? […] But there are only two ideas or forms of them – one of the idea of a bed, the other of a table."* (Plato, 1888, p. 308)

This analogy illustrates Plato's proposition that everything in our direct environment – any material object which we can see, feel, hear, taste or smell – is accompanied by its Form, its immaterial shape which exists as an idea or concept in our minds.

Ludwig Wittgenstein, in his *Tractatus Logicus-Philosophicus* (1922), talks about this same idea in different terms. He posits that everything which exists does so within the confinements of our language, our vocabulary;

> *"If I cannot give elementary propositions a priori then it must lead to obvious nonsense to try to give them. […]* The limits of my language *mean the limits of my world."* (Wittgenstein, 1922, p. 74)

Consider, for example, a forest. Should we no longer have the term *forest* in our vocabulary, the forest would disappear with it. Left behind would be its constituent elements; we can still observe and experience its trees, the fauna and flora. It is only the notion of *forest* as a collective of these elements that no longer exists.

In this way Wittgenstein questions our reality: does it change along with our language? And, if so, then what is our reality other than an abstract concept?

Dialling back to the notions of *immaterial* and *material,* I consider Plato and Wittgenstein's philosophies to be analogous. The *Forms* that Plato speaks of coincide with what *language* is for Wittgenstein. Other terms which I consider to be correspondent (or at the very least comparable) to Forms and language are thought, concept, mind and time. All these terms fit within the category of that which I would call immaterial, and they all have their material companion; sensation, representation, body and (our proximate surrounding) space respectively.

The immaterial world would then be the underlying true core of reality, or, for some, the Sublime, spirituality, God, the Divine – and the material would be what we live in and interact with on a daily basis. When I use the word transcendence, I mean the penetration from our material, empirical realm into the immaterial one. It is in this transcendence that the mysterious forces find their source. I find that when a piece truly inspires me, it is because my mind catches a glimpse of the immaterial, and I feel as though I have been put in touch with that other world. Now, I want to make it clear that despite my usage of heavy spiritual terms I do not mean that art or artists intrinsically have a magical power that can send us flying into a different realm to meet the Gods – I am using these terms to illustrate a direction rather than a destination.

When visiting the 2019 exhibition *Bill Viola / Michelangelo: Life, Death, Rebirth* at the Royal Academy of Arts in London, I found it profoundly covered the theme of

transcendence in the artists' work. I mean by this that it showed Viola and Michelangelo's work not only as a means towards *experiencing* transcendence, but also as incorporating these themes in its actual subject matter.

The relevance of these two artists to this essay is nicely encapsulated in the following words by curator Martin Clayton:

> *"Over a career of forty years at the forefront of video art, Bill Viola has explored with rare intensity the human journey from birth to death: the noise and tumult of existence, our search for transcendence and solace, the passing of the material body, and the possibility of rebirth. These fundamental themes of mortality, intimacy, deep pathos and resurrection are also strongly present in Michelangelo's work [...]"* (Clayton, 2019, p. 15)

An initial mysterious force to consider in the context of the show is *nature*, a motif that we see reappear endlessly throughout art history.

In *The Human Situation*, Huxley describes his take on why landscape painting is so prevalent in our culture. He argues that man is inexorably tied with nature, so much so that a landscape painting never depicts just that, but rather what he calls the universal "*Mind at Large*" (Huxley, 1980, p. 45). He even goes so far as to literally compare our relation to it with religion:

> *"There is something so profoundly religious in landscape painting inasmuch as it seems to explore and to express that layer of the unconscious which is beyond the personal unconscious and which, it seems to me, is just as much a given, impersonal, and not immediately connected with the external world"* (Huxley, 1980, p. 45)

For contemporary artists seeking to call forth this theme, the challenge is now to retain this connection with nature without the use of outdated and old-fashioned landscape paintings. Our definition of the word has, arguably, radically changed with the development of cities and the advancement of technology. This is where I would like to bring in Bill Viola, who in my opinion manages to successfully tell a

contemporary story of nature by breaking it down into its core pieces – the elements: fire, water, earth and air.

Figure 1: Bill Viola, *The Reflecting Pool*, [screenshots], 1977-79.

For instance, let's consider Viola's piece *The Reflecting Pool* (1977-79), which incorporates transcendence in its shape, its subject matter, *and* its purpose.

In a darkened room, a projection screen is set up in such a way that it appears to be floating. A pool of water is seen softly rippling in front of a vibrant green and dense forest. After a few seconds, a man (Viola) approaches, jumps onto the edge of the pool, and swings his body softly back and forth. He then propels himself to dive into the pool, but his jump is frozen mid-air as he floats above the water, his reflection on its surface nowhere to be seen. Just like the figure, the forest in the background is completely still – only the ripples in the water introduce movement to the scene, catching our eye. Time now passes solely in the water; concentric circles rise and subdue underneath the floating man, and we are taken on a visual journey of surface tension. Meanwhile, the figure very slowly, almost imperceptibly, starts to morph into a source of blurred light and eventually is absorbed fully by the forest. We then see

the man approaching the water once again – but only in the reflection of the water, nowhere else, bending over to pick something up, and then leaving the scene once again. After a while, two figures enter the scene: walking around and then facing each other, before fading into greenery. Then, the water starts to move forcefully, before going completely black and the reflection of the diver reappears once again. He crosses the water, before becoming hidden by its surface. For a while, the scene is still, and then the man emerges from the pool, now fully naked, and walks away into the forest.

When talking about this piece, Viola states the following:

> *"I was trying to get at the original notion of baptism in a way – a process of cleansing or clearing away, and the idea of breaking through illusion. Water is such a powerful, obvious symbol of cleansing, and also of birth, rebirth, and even death. We come from water and in a way slide back into its undifferentiated mass at death. There is the emergence of the solitary figure – the process of differentiation or individuation out of an undifferentiated, natural ground. There is also the suggestion of the events of this world being illusory, or transient, since they are only visible as reflections on the surface of the water. The direct reality is never perceived – like Plato's cave."* (Viola, 1985, p. 97)

The installation of the piece – a screen which is lit in such a way that it demands all the eye's attention – contributes to highlighting the meaning of the video. A video which, floating just as the man in the scene, uses sound and visual hints to absorb us into its strange, unsettling but at the same time cathartic storyline. The usage of water as a basic element of nature with all its symbolisms, is a fundamental aspect of the piece, and an aspect that we see reappear in many of his other pieces too.

Figure 2: Bill Viola, *The Crossing*, [screenshots],1996.

A second example is *The Crossing* (1996), a two-channel colour video installation. Both sides show a man slowly approaching the audience, then halting. After a few moments, one side shows a fire slowly growing from the floor underneath the figure's feet, gradually consuming his body and leaving nothing behind. Concurrently, the same figure on other side of the screen is shown to be wiped away in a similar fashion by water falling onto him from above, like a heavy and destructive rain. Just like the reflecting pool, *The Crossing* employs once again natural elements as tools to illustrate narratives of transcendence; at the same time notions of birth and purification, upheaval, death and destruction. This is perhaps more clearly

described by the analysis of this work as found in *Culture & Values: A Survey of the Humanities* (2018):

> *"The two traditional natural elements of fire and water appear here not only in their destructive aspects, but manifest their cathartic, purifying, transformative, and regenerative capacities as well. In this way, self-annihilation becomes a necessary means to transcendence and liberation."* (Cunningham, Reich and Fichner-Rathus, 2018, p. 856)

Viola's nature becomes Michelangelo's divinity. I will not go into too much depth about his art, but I find that his poetry is a good representation of the way in which transcendence and divinity appear in his work: the theme takes a different shape than it does in Viola's work, but it is just as central. The underlying motifs of his drawings, alongside their physical beauty and elegance, made me understand and appreciate why Clayton chose to put *il divino* on a parallel with an artist such as Viola.

> *"If the portion that's divine has well-conceived*
> *the face and gestures of someone, then through that*
> *double power, and with a short-lived, lowly model,*
> *he can give life to stone, which is beyond craft's power.*
>
> *And It's no different with the roughest sketch:*
> *before one's eager hand takes up the brush,*
> *he checks and reworks the most beautiful and clever*
> *of his learned ideas, and lays out his subjects*
>
> *It's the same with me: at birth I was a model*
> *of little worth, to be reborn through you,*
> *noble and worthy lady, as a noble and perfect thing.*
> *If your grace builds up what I lack, and files down*
> *my excess, what penitence should my fierce ardour*
> *expect, if it is to chastise and teach me".* (Saslow and Buonarotti, 1991, p. 236)

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Nature and divinity are, to me, simply different forms of mysterious forces in the immaterial realm. What binds the two together is their connection and resemblance to the sublime.

> *"[…] the essential claim of the sublime is that man can, in feeling and in speech, transcend the human, [but] what, if anything, lies beyond the human—God or the gods, the daemon or Nature—is matter for disagreement"* (Weiskel, 1976, p. 3).

Though tricky to define the term "sublime" itself, its effects induce awe and speechlessness: "*'Wow' often tends to be our initial lost-for-words response to such intimations of otherness or infinity."* (Morley, 2010, p. 12). To me, the sublime is a collective and highly subjective, dynamic term; it is nature for some, religion for others, for children it might be more akin to magic or marvel – it is the *mysterious force* that encapsulates all other forces.

In short, it is this sublimity that binds Viola and Michelangelo so beautifully: what the artists have in common is that this theme is precisely where their work finds its source. The argument I am putting forward can actually be nicely condensed in how Clayton speaks of artists in the exhibition catalogue:

> *"What an artist seeks is to create a physical analogue for the spiritual, or immanence, the manifestation of the divine in the material"* (Clayton, 2019, p. 21)

If the role of an artist is to create such a thing, and Viola and Michelangelo both incorporate spirituality, immanence, and divinity in their subject matter – the sublime – then are they not making art about art itself?

Though self-referential art is not a new or revolutionary concept – consider for instance Magritte's famous painting *La Trahison des images* (1929) that provokes similar questions about art-making – but what makes it so effective in Viola and

Michelangelo's case is that it is indirect. Recognising self-reference in their work, through multi-levelled reading that goes from philosophy to mysterious forces and nature, is only one of many interpretations. But that is what convinces me of the works' splendour; this balance between providing a specific meaning, and making it subtle enough that the observer is urged into a unique and personal dialogue with the work.

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## Immediate experience, cosmic order and perception

Throughout my artistic practice, I have repeatedly referred to the writings of Aldous Huxley. Even though he is not a visual artist, I am intrigued by his tendency to form a relationship between art and transcendence. Huxley is well known for his works *The Doors of Perception and Heaven and Hell* (1954), in which he explains the value of mystical experience through a description of his experience with mescaline, a hallucinogenic psychedelic drug comparable to LSD. In *The Doors of Perception*, he describes how the drug allows him to confront himself with the *"unfathomable mystery of pure being"* when looking at some draperies, and states that *"what the rest of us see only under the influence of mescaline, the artist is congenitally equipped to see all the time"* (Huxley, 2004, p. 18). Our conscious experience of the world is heavily influenced by our perception. Under the influence of mescaline or other hallucinogenic drugs, the user loses their sense of time and instead is immersed in their current surroundings and experience. Huxley compares this experience of *pure being* with art:

> *"For the artist as for the mescaline taker, draperies are living hieroglyphs that stand in some peculiarly expressive way for the unfathomable mystery of pure being […] Is it, perhaps, because the forms of folded drapery are so strange and dramatic that they catch the eye and in this way force the miraculous fact of sheer existence upon the attention?* (Huxley, 2004, p. 18)

Similarly proposing a link between art and hallucinogens, artist Marina Abramović explains in her *Statements from conversation with the author* (1992) that she believes artists have the capacity to accompany us to our "inner self", creating a comparison between shamans and artists. In Amazonian native Indian shamanistic

cultures, a shaman is a person who is able to transcend to the so-called "otherworld", holding the power to *"heal the sick, to communicate with the otherworld, and often to escort the souls of the dead to that otherworld."* (Eliade and Diószegi, 1999). This journey to the 'otherworld' is taken by means of a hallucinogenic plant brew called ayahuasca. Stemming from Quechua, the name translates to *"vine of the dead"* or *"vine of the souls",* and is made with the vine Banisteriopsis caapi and the plant Psychotria viridis. This second plant contains a psychoactive substance called *dimethyltryptamine (DMT);*

> *"It is the DMT, derivatives of which are also present in various other natural hallucinogens, including the magic mushroom of Mexico, that provides visionary experiences and thus access to the realm of spirits and the souls of deceased ancestors*". (Metzner, 1999, p.1).

Abramović stresses the importance of artists as non-rational elements to our deeply rational society in order to lead us – much like shamans do in their cultures – to the spirituality that we have slowly been losing in our civilised world.

> *"Artists today? They are couriers, they accompany people on the true adventure, a journey into the inner self. There are no firmly established religious structures any longer, the old structures have all been destroyed and new ones have not yet emerged. Artists accompany us on our search for a new order."* (Abramović, 1993, p. 237)

The bridge that Abramović builds between shamans and artists therefore lies in their shared power of guiding us on a journey. Whereas the experience of art is usually not quite as overwhelming as a psychedelic trip, it does carry us in that same direction – a journey from material to immaterial, with varying degrees of required participation from the subject undergoing it.

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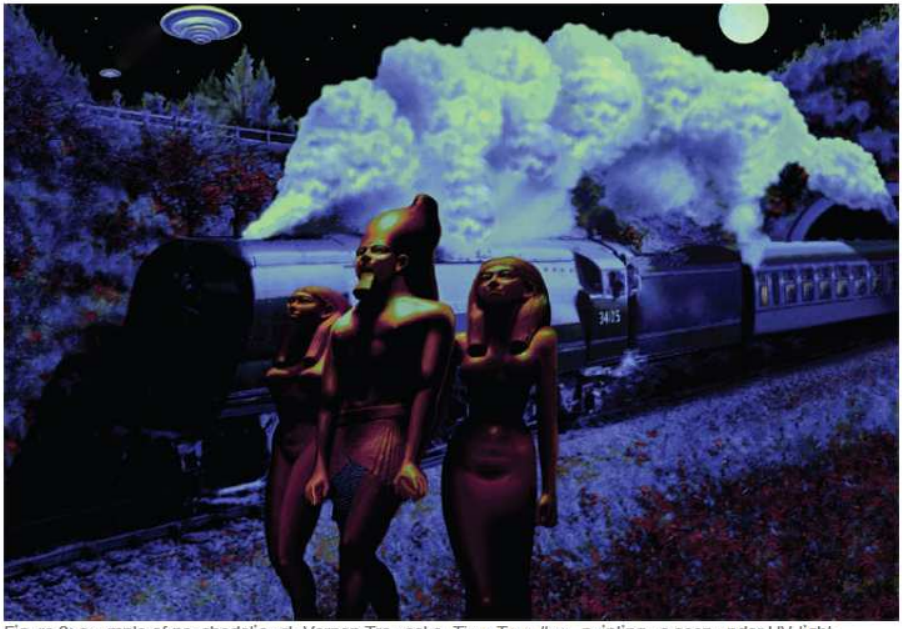

Figure 3: example of psychedelic art. Vernon Treweeke, *Time Travellers,* painting as seen under UV-light.

Probably the most well-known occurrence of art's connection with hallucinogens is the Psychedelic art, or psychedelia, a movement finding its source in the 1960s where artists would ingest psychoactive drugs during the creation of their pieces, thus using the subject matter of their work as a tool for its creation. The movement mainly manifested itself in the form of posters or CD covers accompanying music of the same genre. One possible reason why the style did not continue to live beyond its time is that it lacked an absolute definition;

> *"psychedelic" is a 1950s neologism meaning "mind-manifesting," and in asserting that psychedelic art both derived from and induced a heightened awareness of the world, its promoters obscured the distinction between psychedelic art and art in general, as it is commonly understood.* (Rivers, 2013, pp. 87-89)

All that being said, whether or not psychedelia – or even the theoretical connection between visual art and drugs – is an instrumental and important branch

within the framework of art history, is not my concern. The perspective to be derived from the arts-psychedelics consideration is a much more abstract and indirect one;

> *"Art challenges the monopoly of the established reality to determine what is "real," and it does so by creating a fictitious world which is nevertheless "more real than reality itself."* (Marcuse, 1979, p. 22)

The above quote comes from Herbert Marcuse's *The Aesthetic Dimension* (2014), in which he counters Marxist aesthetics by arguing that, far from binding us to our reality, art can liberate us from it by creating a separate reality all-together. It is the aspect of liberation, of direct contact with the other reality, which is so individual and subjective, that I want to retain and focus on for the next section of the essay.

## Techniques of perception

In Goethe's *Theory of Colours* (1840), the author speaks of one of his experiments of optical study wherein an observer stares at a speck of light for an extended period of time, after which he withdraws and "*a circular image will […] be seen to float before him*". He describes this afterimage as being entirely owned by the observer, an "*image which now belongs to the eye*" (Goethe, 1840, p. 21). This is an eloquent introduction into the notion of optical truth; the idea that there are no such things as optical illusions, that what you perceive is what is necessarily true. In William Blake's words; "*as the eye, such the object*" (Blake and Reynolds, 1789, p.645). My reason for supporting this notion is that I believe it to be a necessary condition for art to exist. If there were no individual, personal and subjective element to perception and vision,

then a painting would be nothing other than an object with a certain shape. Our bodies are a necessary condition for art.

To expand further on the role of our bodies, it is helpful to refer to Schopenhauer. In the second volume of *The World as Will and Representation* (1958), Schopenhauer speaks of the separation between what he calls "*willing*" and "*knowing*". He posits that, as we ascend the series of animals towards the more rational – ending up at human beings – the will becomes more and more separate from knowledge. That is, we have the capacity to employ will over the information that enters our bodies. Whereas I do not fully agree with his usage of the word 'will', I do believe it can be helpful in the context of perceiving and observing a work of art. Schopenhauer believes that a human being is motivated and operated by nothing more than will, and that the only road to freedom is through the silencing of this will. I rather believe that it can be split into two parts; there is a type of will that I would describe as our basic drive of life, which lets us make decisions, form our own values and integrity, and motivates us to operate in a society rather than rejecting the bodies we were born in. Then there is the will, which I believe Schopenhauer is referring to, forming our relentless stream of consciousness that carries us through the day – the kind of will you aim to put to a halt when meditating, for instance.

Now, in this particular case, I believe the 'will-knowledge' argument *can* work when considering it in the context of the first type of will. For instance, it can be applied to a scenario of someone observing a painting. The light reflects on the colours and shapes in front of us, enters our eyes and gives us the knowledge, the information,

for our brains to process and conclude that we are faced with a painting. After those physiological processes, it is through our own *will* that we then choose to become *observers* rather than *spectators;* beauty, and our appreciation of art, is not intrinsic to the object, but rather requires our voluntary collaboration.

> *"Now in the ascending series of animals, the nervous and muscular systems separate ever more distinctly from each other, till in the vertebrates, and most completely in man, the nervous system is divided into an organic and a cerebral nervous system. This cerebral nervous system, again, is developed to the extremely complicated apparatus of the cerebrum and cerebellum, the spinal cord, cerebral and spinal nerves, sensory and motor nerves fascicles. Of these only the cerebrum, together with the sensory nerves attached to it, and the posterior spinal nerve fascicles are intended to take up the motives from the external world. All the other parts, on the other hand, are intended only to transmit the motives to the muscles in which the will directly manifests itself. Bearing the above separation in mind, we see the motive separated to the same extent more and more distinctly in consciousness from the act of will it calls forth, as is the representation from the will. Now in this way the objectivity of consciousness is constantly increasing, since in it the representations exhibit themselves more and more distinctly and purely …. This is the point where the present consideration, starting from physiological foundations, is connected with […] the metaphysics of the beautiful."* (Schopenhauer, 1958, pp. 290-291)

### Techniques of time

Hand in hand with subjectivity and physiological processes, there is a certain temporal overlapping in vision that is necessary for us to digest what we're observing. A multitude of processes succeed each other before we can truly enter into a dialogue with what we're perceiving. In *The Ages of the World* (1815), Schelling states the following:

> *"[…] In the external world everyone sees more or less the same thing and yet not everyone can express it. In order to complete itself, each thing runs through certain moments – a series of processes following one another, in which the later always involves the earlier, brings each thing to maturity."* (Schelling, 1815, pp.88-89)

The mysterious force of time is inexorably mingled with our relation to art; it is a necessary piece to the puzzle on our way to the immaterial. The time it takes for our knowledge to move our will, our capacity to think across time, and the time that is encapsulated in the work of art we're dialoguing with.

After having explained the will and knowledge separation, Schopenhauer moves on to suggesting a silencing of the will, proposing techniques for "*a calming down of the blood circulation*" in the brain arteries. He believes a complete silencing of the will in order to lose oneself in perception is the only way to reach "*pure objectivity*" when observing. Here again I am inclined to agree with the general tendency of his argument, but not with its nuances; I would revert to that slightly different definition of will, one where the will constitutes merely of our *willingness* to consider the visual information that is proposed to us. This is not the kind of will I would suggest silencing – in face it is the only kind of will I *would* allow to exist. Beyond that, I do believe there is value in Schopenhauer's proposal to silence the will in its remaining form: the thoughts, ideas and eventually conclusions that pull us further and further away from the experience of purely observing. In that way it becomes a sort of meditation with the painting; resisting the forceful river of time and the thoughts it carries forth, and instead standing still with the work.

I will now discuss three artists who all employ different techniques of observation that compel us to get lost in perception, finding unusual ways to shape their mysterious forces, ways to guide us into a dialogue with the work.

The first artist, one whom I have long admired for his capacity to play with time, is Eric Dyer – and I will focus in particular on his work *Copenhagen Cycles* (2006), a reinterpretation of the zoetrope. Through a seemingly infinite repetition of movement, Dyer creates a narrative with the capacity to make us re-evaluate our perception of reality. Upon seeing it, I was immediately reminded of the following quote by Henri David Thoreau:

> *"The astronomer is as blind to the significant phenomena, or the significance of phenomena, as the wood-sawyer who wears glasses to defend his eyes from sawdust. The question is not what you look at, but what you see."* (Thoreau, 1906, p. 373).

Thoreau makes a connection between the object as a physical, material substance (*"what you look at")* and a subjective, immaterial idea (*"what you see")*.

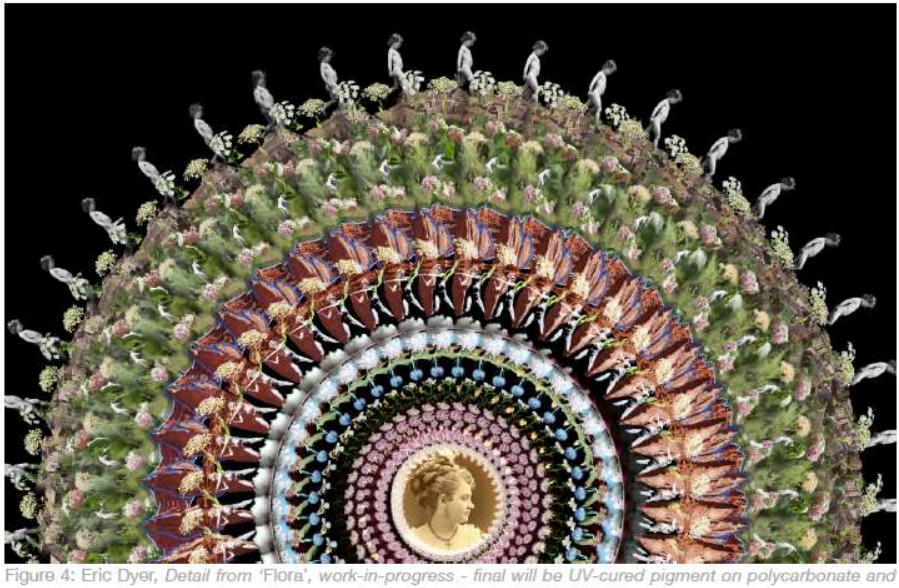

Figure 4: Eric Dyer, *Detail from 'Flora', work-in-progress - final will be UV-cured pigment on polycarbonate and will animate when spun by hand, lit by a synchronous strobe,* [zoetrope], 2018.

Originally developed as a toy in Victorian times, the zoetrope consists of an image on elongated strip which is placed along the inside of a cylindrical drum.

Through a series of vertical slits on the outside of the drum, an optical illusion appears when spinning the toy; the image looks as though it is moving – this makes it one of the earliest forms of animation.

In *Copenhagen Cycles,* Dyer reinvents the technique by arranging the images in a spiral on a flat circle, rather than a cylinder: he "*removed the drum and replaced the slits with a video camera"* (Dyer, 2016). To create the zoetrope, he films scenes in Copenhagen, such as boaters on the canal, people on bicycles and bursts of spring colours in trees and bushes. Extracting the frames from these videos, Dyer then prints them onto long strips of inkjet paper and assembles them on his 'renewed' zoetrope. The result is a mesmerising and distinctive mixture of photography, video and sculpture. "*To me, zoetropes are like time sculptures -- film and animation all contained within a single object*" (Dyer, 2015)

Simultaneously reinventing a century-old animation technique and then using it to depict a 'looped' progression of time in a fragmented, hypnotic fashion, Dyer's work functions in multiple ways as a bridge between material and immaterial.

Firstly, the spinning zoetrope has many similarities to the continuous flux in which our minds and bodies function. The chaotic yet orderly, overpowering pandemonium of images and colours hint at the structures of our solar system and the near-indecipherable ways in which space and time function as one. And yet, the object is nothing other than a combination of paper and printed images. Secondly, when looking at the object in action, a multitude of bewildering and often indescribable processes unfold in front of our eyes – but recognisable images show up from time to time, evoking fruitful thoughts with the capacity to be developed. In this way, the

work successfully breaks down barriers between various features of reality; Dyer mingles our minds with our bodily senses, connecting space and time, *immaterial* and *material.*

### Mobile

In his lecture at Wimbledon College of Arts in 2018, artist Markus Vater suggested that an image is nothing other than a map to reality. The painting is not the image; what forms in our minds while looking at the painting is the true image – paintings are related to images, and can pose as images, but are never images in themselves. This connects directly to Wittgenstein's argument in *Tractatus Logico-Philosophicus* as mentioned above, namely when Vater says that *"an image is not a picture , but a picture can correspond to it"* (Vater, 2018). Vater's practice draws a line between images and paintings which is similar to Eric Dyer.

When walking around *A Mobile About Loneliness* (2016), a mobile made of drawings, pictures and short texts, the viewer indirectly interacts with the work by causing currents in the air that produce small movements in the lightweight object. Rather than a single image, the mobile is dynamic – it constantly moves between showing an image and then retracting it, leaving the observer's eyes having to hold on to the image purely as memory before almost instantly being confronted with a new one.

Figure 5: Markus Vater, *Mobile About Loneliness*, [installation], 2016.

The connection to Dyer's work is the following; the zoetrope's overwhelming looped visual imagery puts us in a sort of perpetual present, compelling us to concentrate on the current experience, rather than thinking in past or future – a state similar to the one described in the section psychedelia; one in which the average human rarely finds himself without considerable effort. Vater's mobile approaches the perpetual present in almost the exact opposite way. Instead of forcing us into the

now, the work draws our attention to the fact that human beings do in fact have a pattern of living constantly in a past or imagined future world; worrying about what we said or did, or planning what we will be doing or saying later on. By sitting with the turning and changing mobile, we are reminded of our own ceaseless turning and changing mind, rarely standing still to experience the particular qualities of the present.

### Mirror

Michelangelo Pistoletto creates work that investigates what he calls *The Third Paradise*, a term coined by the artist, symbolising 'that which exists between nature and artifice'.

> *"The first is the paradise in which humans were fully integrated into nature. The second is the artificial paradise, developed by human intelligence to globalizing proportions through science and technology. […] The Third Paradise is the third phase of humanity, realized as a balanced connection between artifice and nature."* (Pistoletto, 2003)

The Third Paradise is therefore what he describes as "*the generative womb of a new humanity*": Earth's current population living in a "*compenetration*" of nature and artifice. But the artist aims for this symbol to similarly exist as a symbol of multiple antinomies – for instance, it also stands for the space between birth and death, and past and future. It stands therefore for life, and for the present.

Pistoletto's practice confronts this subject in multitude of ways, but the one I want to touch on as a last example in this essay, is dealt with his series called *Mirror Paintings* (1962): large reflective surfaces on which the artist has painted or printed life-sized figures. When standing in front of the work, one can therefore see their

current physical body along someone who has existed in the past; nearly as if present-day were leaking into the realm of the past.

With this, Pistoletto builds yet another type of bridge, different still from Dyer's and Vater's. Compressing a moment from history into a physical object – the work, an object that will surely keep living into the future – and places to reflect, literally, into our current ever-changing environment. It is static, yet it moves with us. Pistoletto therefore 'hacks' time through manufacturing a collision between different time zones, different spaces: past, present, future. By complicating the answers to questions such as 'am I here or there, now or then?', the artist urges us into our own third paradise; standing still on the bridge between mind and body, past and future, time and space, material and immaterial – standing, quietly, just Being.

Figure 8: *Michelangelo Pistoletto, The Plexiglass and Mirror Paintings,* [exhibition] 2011. Photo: Pamela Schwartz.

## Conclusion

This essay's original title was *Art about Art*, which meant to designate my fascination with artists such as Bill Viola, Markus Vater, Eric Dyer, Michelangelo Pistoletto, and more, who seem to me to incorporate the definition of their discipline into the thematic of their practice – whether that be consciously or subconsciously. Somewhere along the writing process this then changed to *Listening to Visual Art*, referring to mysterious forces hidden inside the works of art that seem to whisper to me as I cross them in a gallery. It then turned into *Art and Immersion,* focusing on getting lost in perception. The next draft was called *Art as Truth*; a piece's capacity to form a wholly new reality which is true to you and only to you, in which you are compelled to be free and speak with the immaterial. It went on; *Art through Time* was going to draw the attention to art's existence through time, in time, and its total control over the many shapes time can take.

The penultimate title was *Art and Humans*, because once you employ your will to enter into a dialogue with a work of art, you give yourself the opportunity to transcend in the purest, unfiltered way possible. The beholder is a necessary piece of the work – without them and their vision, with impressions and thoughts evolving and mutating into millions of new pocket universes, an object is and will always remain just an object.